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ENVIRONMENTAL
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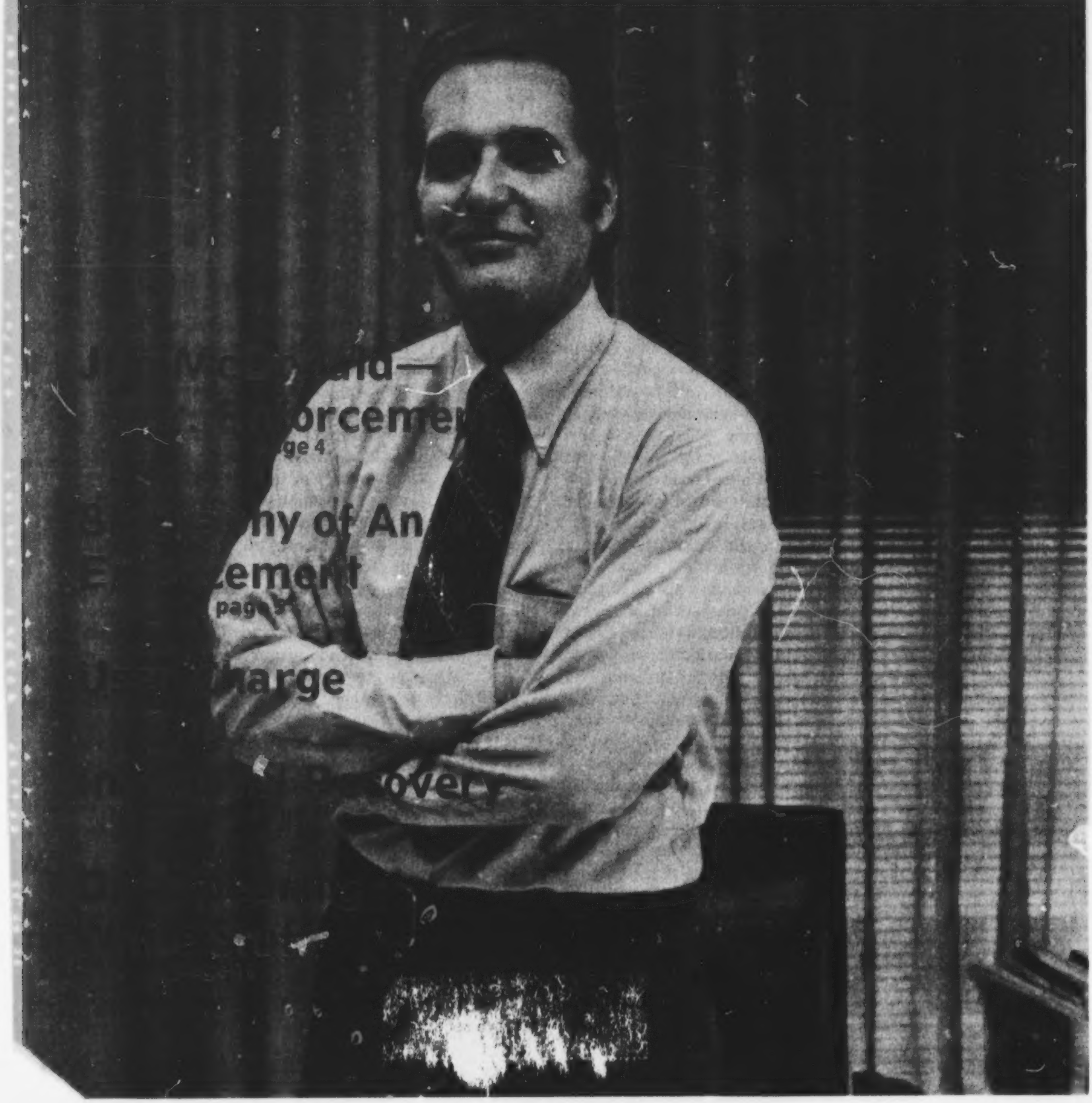

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Phosphates and Our Lakes

GEORGE R. ALEXANDER JR.

Region V, of the U.S. Environmental Protection Agency, is looking again at the question of whether phosphates should be banned from laundry detergents used in the Great Lakes Basin. As Manager of the United States program for protection of the Lakes, we are concerned because manmade sources are putting too much phosphorus into them to achieve and maintain clean water.

The reason is that phosphorus is the chief cause of what the scientists call "accelerated eutrophication", a condition that leads to premature aging of fresh water lakes. More rapid eutrophication in recent decades is one of the main reasons that both scientists and the general public have been worrying about the future of the Great Lakes.

The most obvious evidence of eutrophication is algae, especially when it piles up on beaches and forms mats in the water near shore in late summer, interfering with swimming and even drinking water supplies. In addition, decaying algae can cause reduced dissolved oxygen levels which can have an adverse affect on fish life. Phosphorus is not the only element that water plants need to grow, but it is the one that controls the rate of growth in most cases. All algae blooms in the Great Lakes are triggered by surplus phosphorus.

Some of the phosphorus comes from natural sources, but much of what goes into the Great Lakes and their companion inland lakes comes from fertilizers in land runoff for which there is not yet practical control. Atmospheric transport is another known source of phosphorus, but this phenomenon is not well understood. A very significant portion of controllable phosphorus to the lakes is coming from detergent phosphates, a source that we believe should be controlled wherever it can be shown to be feasible, economically practical, and advantageous from the standpoint of the environment.

The International Joint Commission and Great Lakes Basin Commission already advocate the reduction of phosphates in detergents to 0.5% by weight, which is the level of trace contamination. EPA has determined, in the Great Lakes Basin, that it can not rely only on removal by sewage treatment plants, but must control phosphorus from all sources to the maximum extent feasible.

A policy of phosphate removal at the treatment plants only was adopted in 1972 primarily because there were no adequate phosphate substitutes for detergents available. However, now adequate substitutes are available and there is a larger choice of nonphosphate laundry products. Where States and cities have already banned phosphates in detergents, such as in Indiana, New York, Chicago and Akron, there is very little adverse consumer reaction to the lack of phosphates. The experience with phosphorus removal at the treatment plant has been mixed, with some sewage treatment plants unable to meet consistently the one milligram per liter limit set for Lake Erie, Lake Ontario and the St. Lawrence River in accordance with the 1972 Great Lakes Water Quality Agreement between Canada and the United States.

Minnesota is another of our Great Lakes States that has already adopted a ban, effective January 1, 1977. In December, I endorsed the proposed ban in Michigan, especially in Detroit, whose treatment plant is the largest single source of phosphorus discharged directly to the Great Lakes system. The existing phosphate ban in Chicago allows negligible input to Lake Michigan in Illinois and the State is considering lowering its effluent limit for all waterways.

This leaves Wisconsin and Ohio as the two States in the Region where the need for phosphate bans should be considered by State agencies and the legislatures. In the new year, Region V, of EPA, will be analyzing the situation in these States and making its technical expertise available to the States so that the Great Lakes will have a more secure future for all time.

ENVIRONMENTAL HOTLINE

Whose fault is it?

Dear Sir,

In the Sept./Oct. 1976 issue of Environment Midwest wrote, "We can no longer point to industry and say, 'It's all THEIR fault. It's everyone's responsibility. . . .' " regarding water pollution.

I seriously question whether it's everyone's fault and responsibility that our water resources are contaminated with PCB's, DDT and all the other toxic, hazardous crud found in industrial wastewater discharges.

I also question building more sewers and bigger water treatment facilities, at huge public expense to handle the ever growing load of industrial wastewater discharges, specifically because the biggest share of the local public expense or wastewater treatment is being dumped on little homeowners in the form of higher sewer taxes, VIA the property tax system, the most regressive and unjust tax ever devised.

American industry, in 1970, used TEN TIMES MORE WATER than all domestic water use combined. Since total water usage is a pretty good indicator of who is discharging what and how much, it's obvious that industrial wastewaters are about ten times greater in volume than all domestic discharges combined; and industry helps itself to a bigger share of our available water resources with each passing year.

It's hard to justify spending multi-billions of dollars in public funds to build more sewers and bigger treatment facilities under these circumstances when no effort is made to promote WATER CONSERVATION as a valid and feasible alternative.

Wastewater treatment is grossly expensive, consumes a lot of energy and many treatment facilities being planned and built to-day will often become overloaded long before their time.

We can no longer afford the luxury of wasting treated water resources, just because industry feels these are cheaply acquired raw resources that can be lavishly and wastefully used once and then dumped for treatment at great public expense.

Environmentally yours,
(signed)
Carl Backes.

Reye's Syndrome Ruse?

Dear Editor:

After reading the November 1976 issue of Environmental Midwest, I am very dismayed at the misleading manner in which the story "A Great Lakes Child Killer? Reye's Syndrome" was presented, particularly on the cover.

Regardless of what was intended, the information on the cover literally translates into a message that if you breathe the air, drink the water or eat fish, etc. from the Great Lakes you are risking Reye's Syndrome, a possibility that has not been proven, and only barely researched!

With all of the publicity surrounding the problems of the Great Lakes, most recently Lake Ontario, your selection of the term "Great Lakes", even in a geographic sense, is highly unfortunate and unconscionable.

The headline and editorial treatment have illogically, at this time, interconnected the disease and the Great Lakes as its origin without any substantial proof, at least in the article. Following your pattern of rationale would also lead me to believe that the Great Lakes were responsible for the Hong Kong flu!

Therefore, in the future, we request that your editors consider all of the ramifications of an article or news release prior to publication in order to avoid a repetition of the misleading story in your November issue of the "Environment Midwest", which was insensitive to the environmental and economic concerns jointly facing business and government today.

Sincerely,
Thomas R. Schedler

(Mr. Schedler is Executive Vice President of the American Fishing Tackle Manufacturers Association.)

Environment Midwest welcomes your comments, opinions and ideas and reserves the right to print letters and excerpts.
—Editor

"call us the cops of the environment"

MR. ENFORCEMENT

Jim McDonald is known as Mr. Enforcement throughout Region V. And with good reason. During the five years, he has been Director of the Enforcement Division, within the Environmental Protection Agency, his section has taken on hundreds of legal actions.

McDonald recalls the mood of the country when he took over in 1971. "This was the time around Earth Day. We had the environmentalists pounding on the table, lots of people were interested, and there were pressures to get moving on an enforcement program from within and without."

Get moving was what they did. He hired a group of fine technical people, a couple dozen lawyers, an efficient clerical staff and got down to business.

"The whole style and tone of the times was one of action. We had to keep a clear head and move forward."

Pinpointing the major polluters was the first task ahead of the Enforcement Division. McDonald said, "We had a good idea of who the principal polluters were and we began issuing 180 day notices. We asked dischargers to set up remedial programs and get busy on the clean up."

"The first step in enforcement," McDonald said, "is the notice of violation. This is the first indication that the Federal government is interested in you as a city or company." The notice may be followed by administrative orders, and finally suits.

"No one really wants to go into litigation. It's a costly and expensive process. But when it's necessary, that's what we have to do."

"We're seeing a whole revolution in the legal system. The Courts have been forced to adjust to all kinds of specific technical cases. Litigation is a whole new challenge . . . which we're prepared to tackle."

McDonald understands that his role doesn't always lead to friendly relationships. "Whenever you have a regulatory role, you're bound to have some unfavorable reaction. Often States want to do it themselves and not have Big Brother standing over their shoulder."

Many people consider McDonald the best enforcement person in the Agency. His record is impressive. During the first five years the EPA was in business, McDonald and his staff worked to bring more than 2,000 major stationary sources of air pollution into compliance with Federal and State regulations.

On the five year anniversary of Earth Day, April 22, 1975, Enforcement could also boast that the number of cities in Region V failing to meet national air quality standards was cut in half.

In the area of water enforcement, strong actions against municipalities have brought about significant improvements along Lake Michigan beaches and the infamous Cuyahoga River. Persistent efforts against paper mill discharges have paid off along the Fox River which feeds into Green Bay.

McDonald's persistence in bringing polluters into compliance has engendered strong feelings from all who have dealt with him. One state official has been quoted as saying, "If we did everything McDonald wanted we'd be run out of town."

On the other hand, David Comey, a leading Chicago environmental activist, unabashedly calls him "the most effective regulatory official that I've ever met on any level of government." Comey adds, "McDonald always bends over backwards to be fair to everybody, but once he reaches conclusions he doesn't mince words or play bureaucratic games. He gets in there and does the job."

EPA Deputy Administrator John Quarles speaks highly of McDonald and the Region V Enfor-

[Continued on pate 6]

BIOGRAPHY OF AN ENFORCEMENT ACTION

The following is a brief chronology of an enforcement action which was the consequence of non-compliance with a permit issued to a steel-making operation in the Chicago area.

It is an example of the litigation that the Enforcement Division is often involved in and is also illustrative of how much effort is often expended to resolve a single pollution problem. While this case is unique as it was the first filed against a steel company for permit violations thru a referral to the U.S. Attorney, it is just one of hundreds that have been handled by the Region V Enforcement Division.

I. PRE-PERMIT ISSUANCE

Under the Federal Water Pollution Control Act, as amended, (FWPCA), the Refuse Act Permit Program application filed by International Harvester Company (IHC) became an application under the National Pollutant Discharge Elimination System (NPDES) permit program. The U.S. Environmental Protection Agency (U.S. EPA) proposed to issue NPDES permit number IL 0001660 to IHC.

July 27, 1973 : The State of Illinois Environmental Protection Agency (IEPA) granted tentative certification of the proposed permit.

August 20, 1973 : Following receipt of that tentative certification, the U.S. EPA issued joint Public Notice (311-0034), in compliance with the FWPCA.

September 18, 1973 : During the thirty day public notice period, IHC submitted comments on the proposed permit by letter.

January 29, 1974 : Those comments were incorporated into a revised proposed permit, for which a second joint Public Notice (311-0034A) was issued.

February 18, 1974 : IHC submitted written comments to the revised proposed permit.

March 18, 1974 : IHC submitted written comments to the revised proposed permit.

March 28, 1974 : The U.S. EPA formally requested certification of the revised proposed permit from the State of Illinois.

April 22, 1974 : Requested certification was received.

May 16, 1974 : The permit in final form was issued and became effective.

II. POST PERMIT ISSUANCE

February 27, 1975 : Following permit issuance, no formal enforcement action was instituted against IHC until this date. An Administrative Order (EPA-V-75-W-83) dealing with a temporary discharge of non-contact cooling water was issued. This order was closed out.

July 7, 1975 : A second Administrative Order (EPA-V-76-W-6) was issued to IHC. That order dealt with specific permit effluent limitation violations and required IHC to return to permit compliance.

December 17, 1975 : Failing to achieve permit compliance administratively, the U.S. EPA referred the matter to the U.S. Attorney for the Northern District of Illinois. A complaint (75 C 4264) was filed seeking compliance with the NPDES permit and civil money penalties.

January 30, 1976 : The defendant IHC, through its attorney, filed an Answer and a First Set of Interrogatories. The Answer amounted to a general denial and the Interrogatories posed many detailed questions regarding each of the approximately 1700 individual permit violations that had been cited in the Complaint.

March 10, 1976 : U.S. EPA's Answer to IHC's Interrogatories were filed with the Court.

BIOGRAPHY OF AN ENFORCEMENT ACTION (cont'd from previous page)

April 9, 1976 : The U.S. EPA filed a set of Interrogatories and a Request for Production of Documents, with the Court.

April 1, 1976 : At a status call, Judge Marshall allowed IHC sixty days within which to prepare a report of a settlement proposal, and set another status call for June 3, 1976.

June 3, 1976 : IHC presented its proposal. U.S. EPA immediately stated that the settlement proposal appeared to be unsatisfactory. Two weeks later U.S. EPA formally responded to the proposal, rejecting it as unacceptable in that it proposed to take no action until the outcome of the IPCB cyanide hearings as well as other regulatory promulgations.

November 24, 1976 : Another status call was held before Judge Marshall. At that time there was some discussion about a Motion for Preliminary Injunction. Such a document was prepared and filed on December 7, 1976.

December 10, 1976 : Judge Marshall consolidated the hearing on the motion with the trial on the merits and set the trial for December 13, 1976.

December 22, 1976 : Judge Marshall, after hearing approximately two weeks of testimony, set the remainder of the trial for April.

Throughout the permit issuance and enforcement process there were numerous contacts and meetings between the company and the States and the EPA to resolve issues or to try to resolve issues. These numerous contacts are not shown here.

Continued from page 4

cement Division in his new book, *Cleaning Up America.* "The leadership to build a nationwide enforcement effort came out of Chicago. Jim McDonald, the head of the program there, was one of the few lawyers who had been working for years in the water pollution program. His background gave him the essential combination of experience in both the legal and technical sides of pollution control, bu the crucial factor in his success was motifation. Where others held back, he was ready to move ahead. McDonald quickly established an active and effective enforcement program in his region, which included the Great Lakes states with their severe pollution problems. When enforcement leaders from other EPA offices observed his success, they were encouraged to follow his example . . ."

While some see his style as occasionally autocratic, his staff consistently keeps up a high esprit and has won top Agency awards over the past six years. The key to McDonald's success was best in evidence during a senior staff meeting some years back when in the midst of a tedious session of in-fighting and bickering, he observed, "I think we forget we're here to clean up the air and the water."

"It seems sometimes like you have different government levels going against each other, but ultimately we all have the same goal, we all want to clean up."

McDonald recalled that one of the first hearings was held in Euclid, Ohio, which at that time was the sixth biggest polluter into Lake Erie. "Here you had an expanding community, with a lot of industry, and they needed to upgrade their treatment plant. The new federal pitch set the stage for them to clean up. It was a starting point."

"You've got to know what you want in the enforcement business and you've got to be fair. And there's a real fine balance between these sometimes." Pleasing everybody just can't happen. You've got to let equity dictate your actions. There's got to be some flexibility in enforcement."

"Prioritizing is also important. We've got 12,000 water dischargers subject to permits in Region V. But only 10 per cent are major dischargers, which account for 75-85 per cent of the pollutant load. You go after these guys first."

"The pollution game is nothing unless you know names. We now have a tracking computer that tells us at what point of stage each discharger is in." It gives us a day to day story on each."

"Our real job today is to continue to persist in compliance with the laws. The Clean Air and Clean Water Acts are the real heart of enforcement."

"You can call us the cops of the environment. We've got a unique back-up role, and a superb staff. That's why it all works."

USER CHARGE and INDUSTRIAL RECOVERY

BY EDWIN C. HORN
CHIEF, PROGRAM SUPPORT SECTION
U.S. EPA REGION FIVE

Under the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), prior to award of a construction grant, a municipal applicant must assure the USEPA Regional Administrator that it has or will adopt, (1) a User Charge System (UCS) in which each recipient of wastewater treatment services pays its proportionate share of operation, maintenance and equipment replacement (OM&R) costs, and (2) an Industrial Cost Recovery System (ICRS) in which each discharger of industrial wastes will pay back that portion of the grant used to construct facilities that accommodate those wastes.

Here is an overview of the UCS and ICRS compiled by Edwin C. Horn, Chief of the Program Support Section in the Construction Grants Branch of Region V's Water Division.

Briefly, a grantee municipality's wastewater or sewer service billing system will usually have to generate revenue for three elements. These are:

1. *The User Charge System* (*UCS*)—This element is to generate revenue from each user, or user class, that is proportionate to the treatment authority's costs for operation, maintenance and equipment replacement, of facilities used to provide those users with services. The system must be established in local legislative enactment or ordinance. There can be no exceptions from the application of this system given to any recipient of services. All user classes—Residential, Commercial, Industrial, Institutional and Governmental, must pay their proportionate share of OM&R costs.

The term "replacement" was specifically defined by Section 212 of P. L. 92-500 to mean expenditures for procuring and installing equipment, accessories and appurtenances necessary, during the useful life of a treatment works, to maintain its designed capacity and performance. It is important to emphasize that "replacement" as used in the Federal statute and implementing regulations does not mean replacement of the entire facility or its construction, expansion, upgrading, betterment, etc. In attention to this indirect cost element, Congress indicated its intent not to have the capital assets, resulting from the largest public works program ever undertaken, wasted by neglect or malfunction because of a lack of proper OM&R funds.

Some UCS Features and Details:

a. A common OM&R treatment charge, per unit of normal domestic strength waste, throughout a service area or jurisdiction.
b. Surcharges for extra-strength (above normal biological oxygen demanding and suspended solids) discharges.
c. No volume discounts.
d. Accounting systems should isolate costs for treatment, interceptor and/or collector systems and may also isolate service costs to each class which are not common or differ substantially.
e. Accountant and engineer should collaborate to classify municipal wastewater treatment property, isolate equipment, establish its service life and provide a reasonable

[Continued on next page]

USER CHARGE

[Continued from page 7]

estimate of its replacement costs. That cost must be placed upon those users benefiting from consumption of the equipment, not borrowed at the time of replacement placing the burden on future users.

2. *The Industrial Cost Recovery System (ICRS)*

This element is to generate revenue for Recovered Amounts" as defined in 40 CFR 35.928-1. Recovered amounts amortize that part of the Federal grant used to construct facilities that service industry since the industrial share is not a grant. Part of the 75 percent Federal grant has to be paid back over a 30 year term. The ICRS is applicable only to municipalities with construction grant projects involving the joint treatment of municipal/industrial wastes. Its related ordinance will identify two user classes—industrial and nonindustrial. It is important to emphasize that the system involves only that part of municipal facilities used to convey or treat industrial wastes.

Some ICRS Features and Details:

a. Letters of intent required from significant industries (those estimated to use 10 percent or more of a proposed project) are not commitments for full term utilization of those estimated amounts. They are required to signify that an industry recognizes its "payback" obligation and serves as a guide for project designers to assure the facilities will properly accommodate the industrial wastes.

b. If any industry discontinues use of treatment works in the future, its payments for cost recovery cease.

c. If an industry's discharge (volume, strength or delivery flow rate) changes its ICR payment or obligation is to be adjusted accordingly.

d. Flow as a minimum, in relation to design flow capacity, must be used to compute an industry's payment. This motivates reduction of clearwater discharges such as cooling water and condensate.

e. Only the industrial wastes from an industry are to be used to compute its payment, not its domestic wastes. The domestic wastes from industry are considered to range from 15 to 30 GPD/per employee at normal loadings of 200 Mgl BOD and 250 Mgl SS.

f. An industry's ICR obligation is to be computed using only that part of the grant allotted to it or to capacity firmly committed (contracted) for its use.

g. An industry's obligation shall not include an interest component.

h. Half of the amounts recovered from industry are to be retained by the municipality and half returned to the U. S. Treasury. Of the retained amounts, 80 percent is to be deposited in a federally insured account for future reconstruction and expansion of the municipality's treatment works, and 20 percent may be used as the municipality sees fit.

i. Projects exclusively for stormwater treatment or control, correction of combined sewer overflows or infiltration/inflow reduction, are not subject to ICR.

3. *Local Capital Costs (LCC)*—This element is not addressed in Federal regulations. Any method may be employed including Ad Valorem taxes, surcharges, etc. The element should be isolated, in billings to users, from elements required to be proportionate to costs. Grantees are encouraged to employ systems which generate a reasonable share of the required local revenue from all segments of the community including those whose property may indirectly benefit from sewer services.

Wastewater Funding Explained in Canton

On December 14, Edwin (Ted) C. Horn, EPA Region V Chief of the Program Support Section for Construction Grants, spoke at the Canton, Ohio Memorial Civic Center before industrialists, environmentalists, and other interested citizens to explain the rules and regulations of industrial cost recovery and the user service charge.

The meeting came at the completion of construction on the Canton Wastewater Treatment Facility, a $22 million project completed with the aid of a 75 per cent grant from the Federal Government.

Sponsored by the City Administration under the direction of Mayor Stanley A. Cmich, in conjunction with the Greater Canton Chamber of Commerce, and with the office of Congressman Ralph Regula, the meeting helped to clarify the 30 year interest-free loan that the government supplied and the responsibilities of the industries that will be using the municipal sewage services.

"Under this industrial cost recovery system, as prescribed by PL 92-500, there is a monetary incentive for industries to reduce discharges. They only pay for the amount of services they use," Horn said.

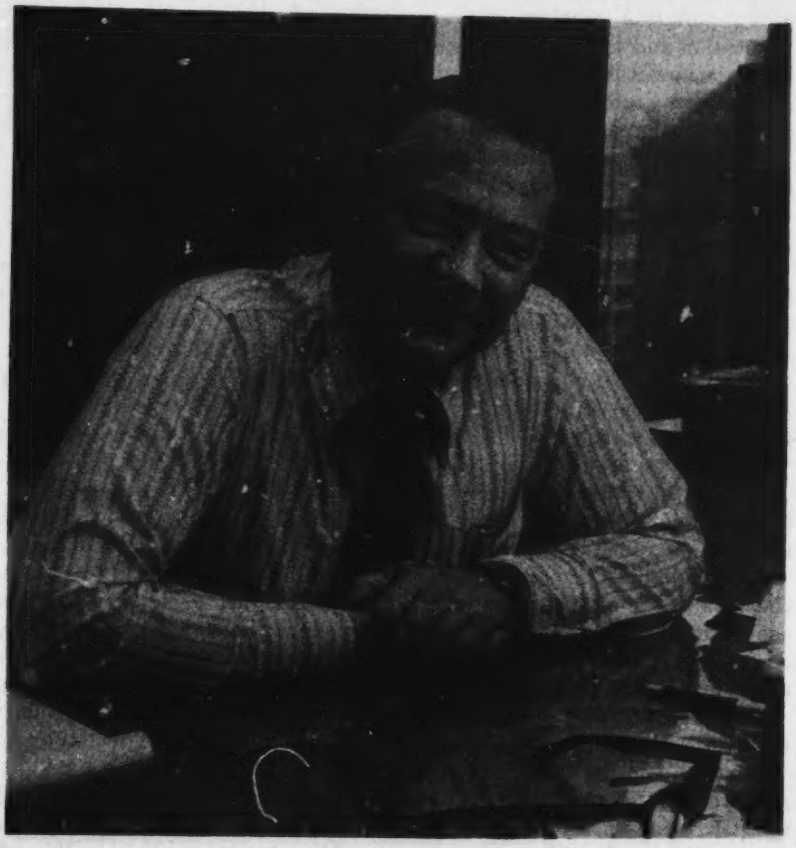
"The strength of this program is that it instills equity in the payment and places the cost of abatement on the sources of pollution. Proportionality in payment is one of the real high points of the program," Horn continued.

The meeting was followed by a question and answer period in which industrialists were able to express their questions about their individual situations.

At the close of the meeting Congressman Ralph Regula said, "This kind of meeting was very successful. It brings the Federal Government establishment responsible for the program directly in contact with those who are affected. There's often a feeling that businessmen are not responsive, but here we get to see that it is. Before this meeting there was a lot of confusion about the difference between user charge and industrial cost recovery. The user charge is a determination of the City Council. Industrial cost recovery is a return of capital to the federal government on an interest-free loan made to the city to provide adequate treatment facilities. This meeting made it clear that those are two distinct things."

Robert F. Fisher, Director of Public Service for the City of Canton, said, "We've at least got 150 more informed individuals now. That doesn't suggest that everyone heard what they liked. We had assumed that people were following PL 92-500, and that industries knew their payment responsibilities. Now at least they understand what these terms mean. Our next step here in Canton is to meet with the environmental committee of the Chamber of Commerce and with other interested parties. We want to show them methodically figures we arrived at for the ICR by March 1, and present that to the city Council by April 1."

"But now that everyone understands what it's all about, it will be a lot easier."



Ted Horn

DISAPPEARING WHITE STUFF

BY PHYLLIS KIERIG

In the years ahead, motorist and pedestrians might see the disappearance of the white stuff that makes their lives miserable in the winter. No . . . snow is not disappearing, but salt might fade away as a deicer in heavily traveled areas.

The U.S. Environmental Protection Agency's midwest office recently learned that a new hydrophobic road surface is in final testing stages in the west.

The new non-skid hydrophobic surface would not allow snow and ice to bond to pavements. Salt is used on highways because it prevents the bonding of ice to pavement and allows sweepers to push the snow and ice off the roads.

"We are not going to entirely replace salt," said Ralph Nordstrom, EPA midwest urban runoff specialist, "but in certain environmentally sensitive areas where water pollution or vegetation killings are a problem it would be a good alternative."

Environmentalists know that road deicing salt is a big pollution problem and also kills road side vegetation and trees in heavy spreading areas.

Environmentalists are worried that the policy of midwestern highway departments to provide June driving in January leads to the overuse of salt for deicing. Salt is still extensively used even though no conclusive evidence has been found to substantiate the belief that salt usage makes winter travel safe.

Unfortunately, the more damaging salt (chlorides) is favored by street maintenance crews because it is efficient in melting snow and ice. Also, salt does not blow off the road easily by wind and traffic and requires less application time. Above all, salty brine inhibits the formation of ice on pavement which makes the jobs of road clearing crews even tougher.

In the past, highway crews made more use of cinders and sand or other abrasives. Sand fell out of favor because it eventually ends up in the drainage ditches, shoulder areas and conduits on the side of the highways and has to be dug out in the spring. If the sand isn't removed it clogs the drainage systems and causes flooding and sewer and storm sewer back up problems.

To avoid flooding problems in the spring, snow removal teams have turned almost exclusively to deicing by salt. In all, 20 states in the eastern and north central sectors of the country use more than 90 per cent of all chloride compound deicers. Among the leading Ohio, Michigan and Minnesota are in the top five state classification Among the 20 states, Ohio, Michigan and Minnesota are three of the five heaviest users.

Highway salting rates are generally in the range of 400 lb to 1,200 lbs of salt per mile of highway. During the winter season, many U.S. highways may receive more than 20 tons of salt per mile or more than 100 tons of salt per road mile.

EPA has found that many times salt is wasted through over-application, misdirected spreading and anticipation of bad driving conditions before they actually occur.

Environmentalists worry about excessive salt use because statistics by EPA show deicer to be a major contributing source of local ground water and surface water salt contamination.

In addition, winter time highway run off eventually drains into fresh water streams and natural or man made lakes or ponds doesn't do much for future water life.

It has also been estimated that highway salts contribute 11 per cent of the total input of waste chlorides entering Lake Erie annually.

Sodium from road salts entering streams and lakes may also fertilize monovalent ions essential for the lush growth of blue green algae which eventually leads to eutrophication of the death of many lakes.

Other recent investigations concern EPA personnel because studies have pointed out the hazardous potential of sodium and calcium ion exchange with mercury tied up in the bottom muds of lakes. The exchange can result in the release of highly toxic mercury to the overlying freshwaters.

If plain sodium chloride doesn't do enough harm, other EPA officials are worried about the deicing additives used to keep salt stocks caking. The two more common additives are ferric ferrocyanide and sodium ferrocyanide. The sodium is soluble in water and can generate cyanide in the presence of sunlight.

The damage to water supplies is one of the biggest concerns EPA has with deicing procedures in the midwestern states.

EPA did discover through in a research project commissioned and summarized in 1976 on the deicing problem that salt cost the snow belt states $3 billion dollars a year.

The study did not consider the benefits of salting. It did document that damage to water supplies cost approximately $150 million a year, underground utilities, $10 million; vegetation killings, $50 million a year and corrosion of metals

(Continued next page)

in highway structures, bridges, bridge decks and corrosion of auto and other vehicles $2 billion.

EPA studied of salt costs because they needed to find out what type of replacement material would be in line price wise.

"We found out that anything in the 20 to 30 cents a square foot range would be okay," said Hugh Masters, project officer at EPA's Edison New Jersey office.

The proposed hydrophobic surface was developed as a result of a three-year research grant funded by the Massachusetts highway department and EPA and given to Rice University for investigating porous pavements in cold climates.

The original research was then applied by another team at Boulder, Colorado. The Colorado team found the surface to be free from skid problems and recommended more tests for durability.

Currently, Washington State University, Pullman, Washington, is testing two formulas on a test track for wearability. The test should be completed in 1977.

As a sidelight to the study, EPA officials found serious problems with the storage and application of salt to roads in cities and urban areas.

"Storage practices for salt are bad," said Masters. "We found open storage sites where rain run off from the salt piles resulted in contamination of wells and water supplies."

Also we found very sloppy practices in spreading the salt. It was our observation that the drivers of the spreaders had not properly calibrated their trucks. They just wanted to dump a load and get another as fast as possible and to dump and get another load as fast as possible . . ."

To remedy the problem, EPA put together a manual of practice for application and better covered storage of salt for cities and private citizens.

The manual may be obtained from EPA by writing the Office of Research and Development, Washington D.C.

BRIEFS

pesticides

Suspension upheld by courts

A federal appeals court recently upheld the government's suspension of the pesticides chlordane and heptachlor, which have been linked to cancer.

The pesticides, which have agricultural and household uses, are made by Velsicol Chemical Corp., a Chicago subsidiary of Northwest Industries Inc. After the EPA last December suspended the products' registration, the company appealed the ruling as unwarranted.

The EPA said that the chemicals have been found linked to cancer in laboratory animals and therefore were a risk to humans. The court of appeals agreed with the EPA's contention that pesticides that cause tumors in laboratory animals may be considered a potential cancer risk to humans.

New drug may remedy pesticide poisoning

An experimental drug being tested to see if it can prevent heart disease may also be an antidote against poisoning from kepone and similar deadly pesticides.

Preliminary evidence indicates that the drug, cholestramine, speeds up the elimination of kepone from the body.

At a recent conference of the American Association for the Study of Liver Diseases, Dr. Philip S. Guzelian, a liver specialist at the Medical College of Virginia in Richmond, said 32 Kepone poisoning victims are undergoing testing to see if their bodies can be cleaned of Kepone.

The patients were exposed to Kepone while working at the plant that made the pesticide in Hopewell, Va, which is now closed.

More concern

The number of Americans concerned with air and water pollution has reached record peaks, according to a recent Harris survey of 1,539 adults.

Sixty-six per cent feel that air pollution is a "very serious problem," up from 46 per cent who felt that way in 1975. Sixty-seven per cent feel that water pollution is very serious, up from 51 per cent.

According to Harris, part of the reason that people are concerned with pollution stems from the feeling that neither government nor industry is doing an adequate job of controlling it.

wastes

Suits filed against alleged polluters

Illinois Attorney General William J. Scott filed suit recently against four alleged polluters of the Fox River between the Wisconsin Border and Aurora.

Charged with violation of Section 12-A of the Illinois Environmental Protection Act were the village of Lake Zurich, Travenol Laboratories of Round Lake, Dodge Trophies and Awards of Crystal Lake, and Elgin Estates.

State officials are concerned with alleged phosphorus emissions from Lake Zurich and Travenol Laboratories, and the alleged emission of suspended solid wastes from Elgin estates and the possibility that cyanide and copper could be leaking into the Fox River from a disposal pit owned by Dodge Trophies and awards.

The suits, which follow a year-long environmental study of the river, were filed before the Illinois Pollution Control Board.

air

Suit to stop coal boiler

A stop the start-up lawsuit against the operation of a new coal fired boiler to generate electricity in Gibson County, Ind. was brought at the request of the Region V administrator George R. Alexander, Jr. The suit alleges that the Public Service Company of Indiana is building a coal fired boiler that will emit five times the allowable amount of sulfur dioxide. To date, the company has issued no methods of operation to control emissions by boiler unit number 3. PSCI is also building a boiler unit Number 4 at the Gibson site, scheduled to start up in January 1979, with no planned sulfur dioxide emissions control.

Symposium held on photochemical oxidants

Midwest regional Administrator George Alexander recently took part in a symposium on photochemical oxidants held in Southfield, Michigan.

The meeting, sponsored jointly by the Environmental Protection Agency and the American Lung Association of Southeastern Michigan, was held at the Lawrence Institute of Technology.

[Continued next page]

Dr. Carl Shy explained that photochemical oxidants are secondary pollutants, the result of interaction of sunlight with certain chemical compounds in the air.

Alexander said that seventy percent of the materials necessary to form photochemical oxidants come from cars, trucks and buses.

The national air quality standard for oxidants is less than one tenth part per million during a one hour average not to be exceeded more than once a year.

Last summer federal standards were exceeded throughout the country. An EPA report indicated that million of Americans are breathing in dangerously high levels, although the exact health effects have not been determined.

Dr. Shy said eye irritation is one of the earliest detectable effects of the pollutants.

energy

Coal gasification plant approved

The Illinois Energy Resources Commission has approved use of $7.2 million in state bond funds to help construct a Commonwealth Edison coal gasification plant test facility near Pekin.

Sen. John L. Knuppel (D-Virginia), commission chairman, said the project, "will be another step forward in making high sulphur Illinois coal an environmentally acceptable energy source in the years to come."

The $167 million plant is scheduled to be completed by late 1978. It will convert coal to clean boiler fuel and produce chemical feed stocks and sulphur.

water

Fish restocking funded

Region V turned over $24,000 in a cooperative gesture to the Illinois Department of Conservation for fish restocking of the Embarras River in Jasper County, Ill. The $24,000 was part of a $55,000 settlement obtained by EPA's legal team in a significant environmental 'leaking pipeline' case against the Williams Pipe Line Company of Tulsa, Okla. Williams has also agreed to stop pumping chemicals through the worst section of the pipeline until repairs are finished. After the worst section is patched, Williams said it would start work on upgrading all the remaining miles of pipe.

Grant awarded for wastewater treatment plant operators

The Midwest Regional Office of the U.S. Environmental Protection Agency has announced a $25,140 grant to the Bureau of Environmental Protection of the Michigan Department of Natural Resources for training some 215 wastewater treatment plant operators.

EPA officials said this grant plus $24,480 from the Michigan DNR will bring the total cost of the program to $49,620.

"Under the grant program," said Chester J. Shura, Chief of the EPA Midwest Region's Manpower Development Branch, "courses will be conducted in wastewater analyses, activated sludge, electrical maintenance, lagoon operation, and maintenance and phosphorus removal techniques."

Shura said development of curriculum and training materials for a training course of wastewater treatment instrumentation is also part of the program.

Laboratory courses for wastewater analyses and phosphorus removal techniques will be held at Michigan State University in East Lansing. All the other courses will be held in other parts of the State with location to be determined.

Howard B. Selover, Chief of Investigation and Training for the DNR's Water Quality Division said the success of the national pollutant discharge elimination system (NPDES) program depends on the ability of a wastewater treatment plant operator to properly operate and maintain treatment plant facilities.

"An operator must be able to perform required laboratory analysis, and, therefore, it is essential that the operator be well trained in the three areas of operation, maintenance and analysis," Selover added.

The project period will terminate June 30, 1977, and the grant award is authorized under Section 104 (g)(1) of Public Law 92-500.

FEDERAL REGISTER

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- Environmental statements, availability, etc.:
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Notices
Pesticide programs:
  Rebuttable presumption against registration of products containing certain substances (2 documents)

Several issues in the area of air pollution by photochemical oxidants and carbon monoxide were discussed at a public meeting in Chicago on October 14, 1976. Among them were health effects, formation and transport of the pollutants, and possible strategies for control. A copy of the proceedings will be sent to each person who registered at the meeting. Other who would like to receive one should write to the Office of Public and Intergovernmental Affairs, U.S. Environmental Protection Agency, 230 South Dearborn, Chicago, Illinois 60604, and ask for "Oxidant Proceedings." There is no charge.

The Federal Register provides a uniform system for making available to the public regulations and legal notices issued by EPA and other Federal agencies. It will be furnished by mail to subscribers, free of postage, for $5 per month or $50 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Readers interested in obtaining all of the EPA regulations promulgated in the Federal Register may do so by ordering Title 40, Code of Federal Regulations (40 CFR) from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. The 1976 edition of 40 CFR (in five volumes) has been published. The volumes and their prices are: 0-49, $3.15; 50-59, $6.80; 60-99, $5.70; 100-399, $4.50; 400-end, $6.70.

As a service to our readers, Region V has requested that the GPO Bookstore at 219 S. Dearborn, Room 1463, Chicago, Illinois 60604 stock a small number of these volumes. To determine if they are currently in stock there, call (312) 353-5133.

EPA Speaker's Bureau

"Daddy, what's the ozone layer?"

The Speaker's Bureau of the Environmental Protection Agency will make arrangements for qualified Agency spokesmen to discuss environmental issues before national, regional and local organizations and groups. Speakers from the Regional Office of EPA in Chicago are available for engagements throughout Indiana, Illinois, Ohio, Michigan, Minnesota, and Wisconsin.

Among the topics that EPA speakers will discuss are the economics of pollution control, safe drinking water programs, air and water pollution control, industrial and municipal wastewater treatment, pesticide regulation, chemicals and toxic substances, hazardous and solid waste management and resource recovery, health effects of environmental pollutants, noise pollution, and enforcement of pollution control laws.

Honoraria and travel expenses aren't accepted. To request the services of an EPA speaker, contact the EPA Speakers Bureau, Office of Public and Intergovernmental Affairs, U.S. Environmental Protection Agency, 230 S. Dearborn, Chicago 60614.

Please indicate the size and type of group to be addressed, date, time and location. One month advance notice will increase the possibility of obtaining a qualified speaker and would be greatly appreciated.

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George R. Alexander, Jr. ....Administrator
Valdas Adamkus ....Deputy Administrator
Frank Corrado ....Public Affairs Director
Rebecca R. Schorin ....Editor

Coming in February . . .

SPECIAL TOXICANT ISSUE:
WHAT THE NEW LAW MEANS

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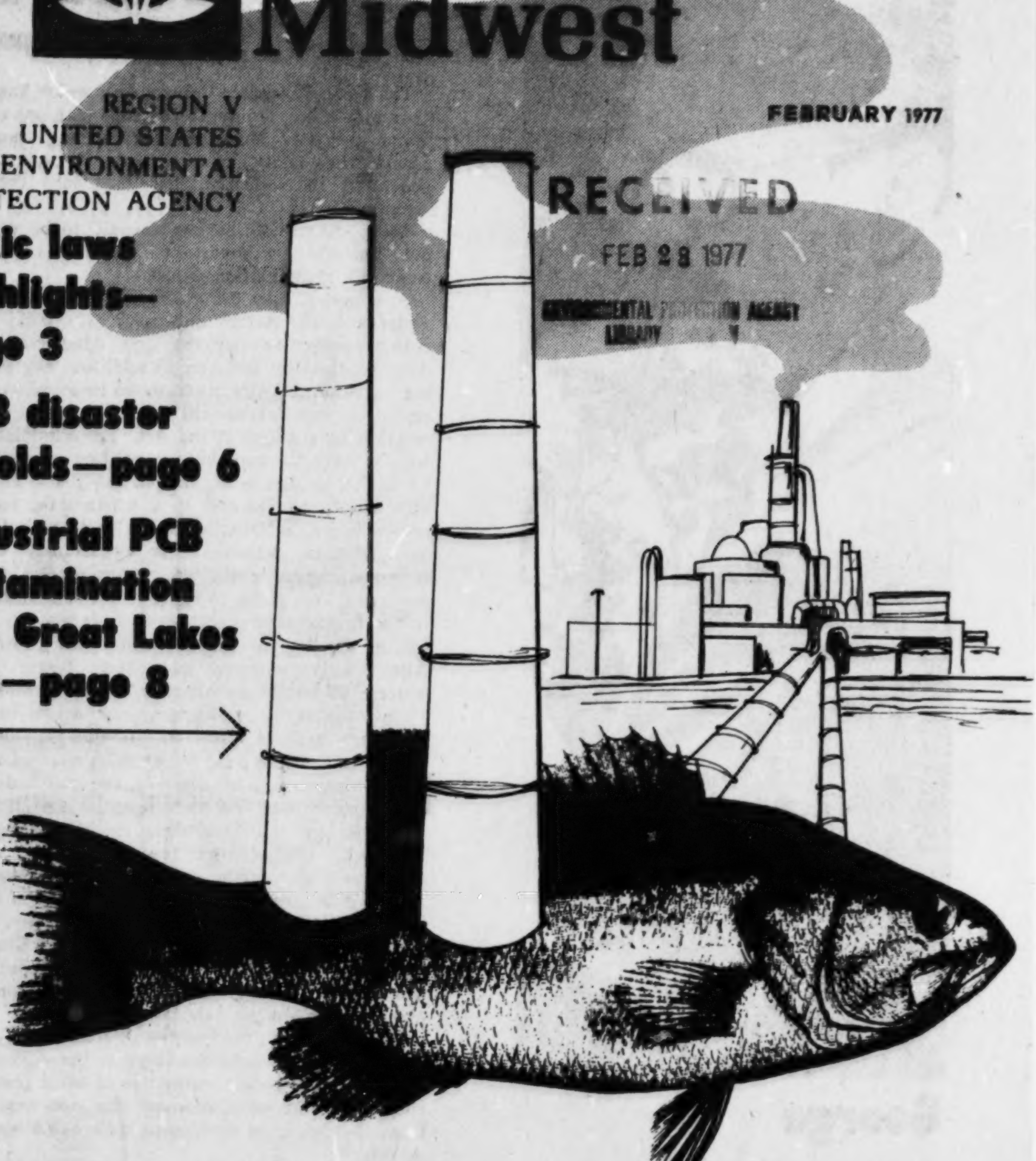


Toxic Substances Issue

Action

Toxic Act ideas sought from public

George Alexander

Region V Administrator

The Toxic Substance Control Act, which has just gone into effect, is intended to cope with one of the major concerns facing modern society—how to assure the safety of thousands of substances generated by industry that flow into the environment.

Many details of the law are still to be worked out. But one very important inclusion in the law is the public participation clause.

Any person may bring a civil suit to restrain a violation of the Act by any party or to compel the Administrator to perform any nondiscretionary duty required by the Act. In addition, any person may petition the Administrator to issue, amend, or repeal a rule under the testing, reporting or restrictions sections of the Act. The administrator has 90 days to respond to a petition. If he takes no action or denies a petition, the party has the opportunity to respond to a petition for judicial review in a U.S. District Court. In both civil suits and citizens' petitions, the court may award reasonable legal costs and attorney fees if appropriate. But going to court is only one means of public participation and will have to be used seldom because of the Environmental Protection Agency's commitment to achieve better, more widespread public participation by other means.

One way is by establishing committees or task forces of experts from within and outside the agency to consider what ought to be covered in the regulations needed to carry out the law. Industry, environmentalists and state agencies are all being consulted by the task force on polychlorinated biphenyls (PCBs), for example. Two major meetings open to the public have been held in Washington and will be held in all the 10 EPA regions. March 3 is the date of the first such meeting in Region V, and this issue of *Environment Midwest* gives both details about the meeting and background information. More explanatory materials about the law are being developed, and in the months to come more public meetings will be held elsewhere in the region. We know that the public wants use of toxic materials controlled, but we also know that we need help from the public in developing acceptable ways to do this.

The new law is a challenge to be met. The law can only be effective, if the words on the paper are translated into action. That, we feel is, our job with the new law. And also yours.

Highlights of the new toxic law (What it means to you)

THE NEW LAW SIMPLIFIED

This new legislation provides the Federal Government with the authority to protect health and the environment from dangerous chemicals. Under the legislation, EPA can require testing of new and existing chemicals that might present an unreasonable risk to health or the environment. A manufacturer is required to give 90 days notice prior to commercial production of the intention to manufacture a new chemical substance or a new use for an existing substance.

Under the new law EPA can act against harmful substances before they can endanger health and affect the environment.

Here are some of the major provisions of the Legislation which are under EPA authorization:

1) Require manufacturer to test the substances so that their effect on health and the environment may be evaluated
2) Impose delays or restrictions on the manufacturer of a new chemical substance if there is adequate information to evaluate the effects
3) Adopt rules prohibiting the manufacture, processing, or distribution of a chemical substance or mixture, to require labeling telling possible hazards with use, or to regulate the manufacture manner of disposal of substances that are suspected to contribute to unreasonable risk.
4) Require manufacturers and processors to submit reports and maintain records concerning the product's adverse health or environment effects along with providing available health and safety data
5) Manufacturer must immediately notify EPA if one of their substances contributes to unreasonable risk
6) Enforce the bill through inspectors and court actions when a manufacturer is found in violation
7) Permit citizens to bring suits to obtain compliance with the bill
8) Federal district courts can order EPA to initiate rulemaking proceedings in response to citizen petitions
9) Provide ways for all interested persons to have an opportunity to participate in the EPA's rulemaking procedures.
10) Provide for continuing evaluation of the effects on employment of actions taken under the bill

Kay Jacobs: Region V enforcement views on the Toxic Act implementation

Perhaps the most important goal of the Toxic Substances Control Act (TSCA) is the *prevention* of dangers which can result from the production of a toxic substance.

Although more than 9,000 synthetic chemical compounds are used commerically every year in amounts exceeding 1,000 pounds each, the overwhelming majority of these chemicals have been introduced into the environment with little if any knowledge of their long term health and environmental impact.

The new law, then, closes a substantial gap in environmental legislation. While a great amount of environmental law was enacted during the 1960's it was widely recognized at that time, that many chemical substances presenting significant threats to the environment were not subject to the control of any federal law.

In 1971, a comprehensive report by the President's Council on Environmental Quality (CEQ) detailed some of the major hazards of these substances and indicated the need for remedial legislation. Later that year, a proposed Toxic Substances Control Act was introduced. Efforts to gain acceptance by both houses culminated in the 1976 Act, which was signed into law October 11, 1976, and took effect January 1, 1977.

Passage of TSCA furnishes the U.S. Environmental Protection Agency with substantial new powers to prevent and control harm to health and the environment. However, the law was originally intended to supply regulatory authority only where none then existed, and the current TSCA requires the Administrator to refer a problem to another governmental agency or department when he determines that a risk may be prevented or reduced sufficiently through action that department may take under the laws it administers. The Act also directs the Administrator to use powers granted under other legislation administered by EPA unless it is in the public interest to employ those found in TSCA. Thus the Region will continue to enforce fully provisions of its existing environmental authority.

Some substances, covered under the law for example vinyl chloride and asbestos, have only after years of widespread usage been discovered to cause serious health or environmental damage. In order to avoid exposure to a chemical which, apart from its intended purpose, may produce such harm, manufacturers are required under the Law to furnish information regarding the composition, production, use, disposal and effects of a new substance for review by the Agency before production may commence.

If during this review certain hazards are found, EPA may require that extensive testing and analyses be conducted in order to shed light on possible risks. Appropriate restrictions may then be developed through the rulemaking process to limit the uses, disposal, etc., of a chemical when it is manufactured, or to prohibit its formulation altogether. If EPA imposes no restrictians and requires no testing before the scheduled production date, then manufacture may begin.

After a chemical compound has been manufactured, the Agency can still require that testing be done and records be maintained and submitted to assess possible hazards of the toxicant. If a hazard is identified, in most cases immediately effective restrictions can be imposed by administrative action, followed by a full rulemaking process to develop final limitations. A chemical already on the market can be totally prohibited only after a federal district court finds that the substance presents an imminent and unreasonable risk of serious or widespread injury to health or the environment. The remaining control mechanisms can be employed for new or existing substances. Most of these controls must be accomplished by an expanded rule-making process which includes the safeguards of the Administrative Procedures Act, and this aspect of enforcement will be conducted through national coordination in headquarters.

Regional enforcement at least initially will be pursued directly through the imminent hazard authority granted for seeking court injunctions and, principally, through implementation of the civil penalties program. Section 16 of the Act provides for the assessment of civil penalties (which may be in addition to a criminal prosecution for the same offense, as well as in lieu therof) upon violation of the law, similar in design to the penalties program of the federal pesticides law. However, the authorization of substantially larger fines of up to $25,000 per day per offense affords an enforcement tool which should prove extremely valuable in helping to assure compliance with the law.

Citizen participation is one of

many notable inclusions in TSCA. Any person may sue in federal district court to force a violator to comply with the Act, and may also sue to compel the Administrator to perform any act which TSCA requires him to take. Even for acts in implementation of TSCA which lie within the Administrator's discretion, a citizen may/petition him to take such action, and then file suit in district court if the petition is denied or has not been responded to within a set period of time. Through these alternatives, an important avenue of participation by the public in protecting their health and environment is established.

Finally, in addition to the broad powers of TSCA which deal with toxic compounds in general, specific deadlines were legislated for the phaseout of one set of highly-publicized, much-used compounds—polychlorinated biphenyls (PCB's). No later than the beginning of 1979, the manufacture of PCB's must cease, and by mid-1979, all distribution must be terminated. By including this type of specific answer to the severe problems found to be caused by the use of PCB's, only one of the many toxic substances which have and shall continue to pose serious hazards, the urgent need for the authority now available in the Act is underlined.

If the provisions of TSCA are properly implemented, the majority of future risks which might come to light in a manner similar to that of PCB's may be prevented through an early awareness of the potential adverse effects of such toxicants in our society.

It is EPA's responsibility to move rapidly to implement a law which offers a method of averting irreversible harm by a system placing early controls on chemical substances.

Pesticides, toxic link, explained

Under the new Toxic Substances Control Law, pesticides are not considered toxic substance and are exempt from the rules and regulations contained within the law. However, on a broader scale, pesticides, as with water effluent and air particulates, may be considered toxic substances. Following is a story written by Tom Golz of the pesticide branch detailing the rules and regulations surrounding the usage of pesticides today.

The Environmental Protection Agency recently issued a list of agricultural pesticides that are candidates for restricted use only by farmers and others that have shown they can safely handle and apply them.

Under the 1972 Federal pesticides law, the application of restricted use pesticides will be limited only to certified applicators or persons working under their supervision. This program will take effect on October 21, 1977.

Certified applicators are farmers and commercial applicators who have completed EPA-approved, State-administered programs on the safe handling, use and storage of potentially hazardous pesticides. For farmers, certification usually means classroom training or home study on safe pesticide practices. Commercial applicators must pass a written exam to become certified.

A total of 81 pesticide ingredients out of the 1,400 now used to make thousands of farm and non-farm pesticides are on the EPA restricted candidates list, which is called "Candidate Chemicals for Restricted Use."

Industrail wastes dumped in ocean waters off the United States declined during 1975, according to a report just released by the Environmental Protection Agency. The study, which summarizes EPA actions taken during 1975 to regulate ocean disposal activities, also highlights the Agency's efforts to reduce the amount of sewage sludge dumped in Atlantic waters.

Data contained in the Agency's 4th annual report of ocean dumping regulatory activities show the amount of industrial wastes dumped annually has dropped about 32 percent under EPA's program, from over 5 million tons in 1973 to under 3.5 million tons in 1975. Almost three-quarters (71 percent) of that decrease in tonnage dumped occurred during 1975 alone.

The report states that further decreases can be expected as dumpers find and implement alternatives to the practice of ocean disposal.

PBB disaster unfolds

. . .about two months after the problem surfaced in his cattle, abnormal hoof growth was noticed. . . skin changes were seen . . . abortion

The Senate Special Investigating Committee indicated in their 1975 report that the polybrominated biphenyl incident in Michigan has been called the worst agricultural contamination disaster ever in the United States. The chronology of events which led to this episode are accurately documented in the following excerpt from a report of Governor Milliken's PBB Scientific Advisory Panel:

The Michigan Chemical Corporation began the commercial production of polybrominated biphenyls (PBB) in 1971 and has been the only commerical producer of the product in the United States. The biphenyl, which was brominated at the Corporation's plant in St. Louis, Michigan was almost entirely purchased from the Monsanto Chemical Corporation which produces all the polychlorinated biphenyls (PCB) commercially available in the United States. The product was marketed as a fire retardant under the designation, "Firemaster" BP-6. The commerical product is no longer being manufactured.

In November, 1971, the Michigan Chemical Corporation began sending this product by its own trucks or those of Interstate, a trucking firm, to the Cincinnati Chemical and Processing Company, Batavia, Ohio, for grinding and blending with "Flo-Gard" an anti-caking agent which was purchased from P.P.G. Industries. "Flo-Gard" was reported to be a calcium poly-silicate consisting of 83 silicon dioxide and a maximum of 7 % calcium oxide plus certain unnamed trace materials. Some of the processed material packaged in 50 pound fiber bags and redesignated "Firemaster" FF-1, was then sent from Batavia directly to users while other lots were returned to St. Louis by trucks belonging either to Michigan Chemical or Interstate.

Early in 1973, Michigan Chemical Corporation began to market magnesium oxide under the name of "Nutrimaster". This was a granulated product similar in appearance to "Firemaster" FF-1 (but not to BP-6 which consisted of "chunky" material).

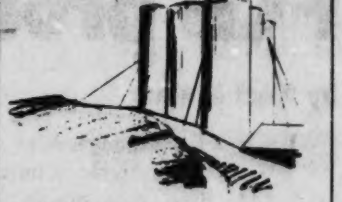
Lot No. 7042, "Firemaster" BP-6 (8400 lbs) was shipped to Batavia by Interstate on July 6, 1972, converted to the FF-1 mixture and returned to St. Louis by Interstate on July 19, 1972. It is possible that 1600 pounds of Lot No. 7052 were mixed in with Lot No. 7042 since both lots were in the same shipment and the Panel received no evidence that the two lots came back separately labeled. On the assumption that the softing point is a measure of the physical character of the product, these two lots had different characteristics (No. 7042: 74.8-75.0°; No. 7052: 73.2-73.5°). In May 1973, the Michigan Chemical Company shipped to Farm Bureau Services some of Lot No. 7042, "Firemaster" FF-1 instead of Nutrimaster which had been ordered. Certain of the Farm

Bureau Services feedmills introduced the fire retardant into particular batches of its feeds.

In July, 1973, a custom feed mixture containing twice the usual amount of magnesium oxide was ordered by Mr. Frederick L. Halbert who operates a dairy farm near Battle Creek, Michigan. Apparently the product which was delivered to him contained the "Firemaster" product instead of magnesium oxide ("Nutrimaster"). In September, 1973, over a 20-day period, mi[illegible] production by Mr. Halbert's herd of [illegible]le decreased by 40% and food consump[illegible]n decreased by 50%. About two month[illegible]fter this problem surfaced in the cattle, [illegible]normal growth of hoofs was noticed in his animals. Later skin changes were seen. Abortion occurred and breeding became difficult. In the early days of the toxicosis, the feed of some cows was changed from the processed material to alfalfa hay with no supplement. The appetites of these cows improved immediately but milk production did not significantly improve. Mr. Halbert with the help of his veterianian, Dr. T. F. Jackson, attempted to diagnose and correct the problem. Analyses of the feed done in the laboratories of the Michigan Department of Agriculture confirmed the toxicity of the material. Mice which were allowed to consume the feed died in 5 to 14 days. The nature of the toxic agent, however, could not be identified. Early in January, 1974, analysis of the feed by gas-liquid chromatography at the National Animal Disease Center in Ames, Iowa, revealed the presence of an unknown substance and in April, 1974, Dr. George Fries at the National Pesticide Degradation Laboratory of the U.S. Department of Agriculture, Beltsville, Maryland, identified the unknown substance as polybrominated biphenyl. After confirmation of this identification in its Detroit District Office, the United States Food and Drug Administration on May 10, 1974, set an action guideline of 1 part per million on a fat basis in milk, milk products and meat. This action guideline was based upon the most sensitive analytical capabilities then available. MDA and FDA thereupon began to remove from commercial channels, products above the tolerance limits. The action guideline levels were lowered to 300 parts per billion in November, 1974, on the basis of newly developed comparative toxicological data on PCB and PBB and the availability of more sensitive analytical capability.

How PBB entered the food chain

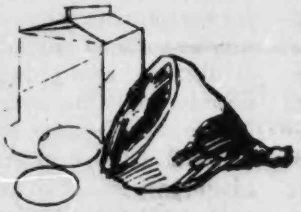
1. Michigan Chemical Co., St. Louis, Mich., accidentally shipped bags of PBB, a fire retardant, with bags of magnesium oxide, a livestock feed additive, to farm supply firm.



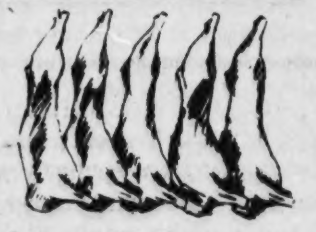
2. At Farm Bureau Services, Battle Creek, Mich., PBB was mixed with livestock feed and shipped to Michigan farmers and Farm Bureau elevators throughout the state.

3. Farmers gave the contaminated livestock feed to beef cattle, dairy cows, poultry, and pigs.

4. During feedings, the PBB-tainted livestock feed also contaminated farm equipment and buildings.



5. Animals stored PBB in fat, which entered the human food chain when contaminated beef, pork and poultry was sold and eaten. PBB also entered chain when contaminated milk was sold to Michigan consumers.



6. After some PBB-affected animals died, or were killed, their carcasses were sold for rendering and recycling into more animal feed additives. (This occurred mostly before PBB contamination was discovered.)

1977 Chicago Tribune

Reprinted courtesy of the Chicago Tribune

On May 24, 1976, Governor Milliken's Scientific Advisory Panel called for lowering the PBB guideline to 5 parts per billion for meat and 1 part per billion for milk. Essentially, the Panel recommended a minimum level at which PBB could be detected in view of their concern over possible longterm cumulative effects of prolonged human exposure to the Chemical. After a number of hearings, the Michigan Agriculture Commission, acting on the advice of the state agriculture department, chose not to lower PBB limits in meat and dairy products. A compromise followed, and Governor Milliken signed into law in July, 1976, a measure lowering guideline levels in commercial feed to 10 parts per billion.

(continued to page 13)

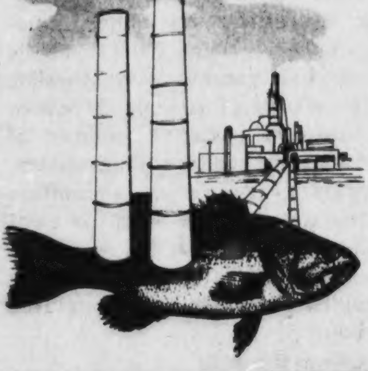
PCB production ends in 1979

by Karl Bremer

With the recent enactment of the Toxic Substances Control Act, the first compounds of concern are polychlorinated biphenyls (PCBs). In fact, the Act made special provision for PCBs requiring the Environmental Protection Agency to issue labeling and disposal regulations by July 1977, to restrict use to closed systems by January 1978, to prohibit all production by January 1979, and to prohibit all distribution of PCBs in commerce by July 1979.

Why, then, have PCBs received special consideration?

Historically, organic compounds such as PCBs have been studied individually. During the 1950's and 1960's attention was concentrated on chlorinated pesticides such as DDT, dieldrin, and heptachlor. Although PCBs were widely distributed in fish and bird specimens analyzed for chlorinated pesticides from 1950 through 1960, they were passed over as unknown interfering compounds. The long road to regulation of PCBs was initiated by identification of PCBs in environmental samples by Jensen and Widmark in 1966. Thousands of samples of water, soil, sediment, and air have been analyzed since that time on a worldwide basis.



As in the case of most persistent compounds our concern and attention is aroused when those compounds reach the top of the food chain and the effects are physically observable in man. The first PCB incident of concern involved large-scale contamination of cooking oil in Japan in 1968. This incident involved more than 1,000 persons, many of whom suffered severe and persistent skin lesions and skin pigmentation problems. Pregnant women suffered miscarriages and stillbirths, and transplacental transfer of PCBs to infants was observed. The same accident led to contamination of chicken feed causing mortality of chickens.

In the United States during the early 70's, PCBs were detected in fish, milk, cereal, eggs, cheese, and animal feeds. In the case of contaminated dairy products, the work of the Food and Drug Administration led to discovery of silos containing PCBs. Other sources of food contamination included food packaging materials containing PCBs, accidental direct contact of food with PCB during food processing, and use of PCB contaminated fish oil in processing of animal food. Due to good internal cooperation between the food industry, the Food and Drug Administration, and the Department of Agriculture, a dramatic decline in PCB levels in food and food products has been detected.

The PCB problem, however, continues to persist as PCB levels are detected in fish, water, air, soil, snow, and finally human tissues and mothers' milk. At the National Conference on PCBs conducted in Chicago, November 1975, the Ecological Monitoring Branch of the Environmental Protection Agency presented data on residues of PCBs in the general population of the U.S. Surveys conducted during 1974 and 1975 indicated that 40.3 percent of human adipose tissue collected contained 1 ppm or more of PCBs on a wet-weight basis. Approximately 2,300 tissue samples were analyzed.

Analysis of PCBs in milk of nursing mothers was released by the EPA in September 1976. Detectable levels were found in 65 of 67 samples and the average level was 1.7 ppm PCBs. This program will be continued until 1,000 samples have been analyzed.

Although PCBs are currently being phased out in preparation for the 1979 ban, the environmental burden of the chemical will continue to be recycled through the world food chain, and through the land, water, and particulate matter in air. Hopefully, as the Toxic Substances Control Act is implemented, the phase out, and proper labeling, disposal and control of current inventory will assist in the decline of this persistent compound in our lifetime.

FIFRA rules affect farms

Illustration by Chuck Quint of CBE Environmental Review

Fifty percent of the nation's corn, over 40% of the nation's soybeans, over 20% of the nation's pesticide producing establishments, and 22% of all registered pesticides are important figures when talking about U.S. Environmental Protection Agency, Region V's Pesticide Branch, but they are far from the whole story of the implementation of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (FIFRA). Region V must implement programs regulating both pesticide use and manufacture.

There are two provisions of the 1972 FIFRA which will greatly affect pesticide use—classification and certification of pesticide applicators. Pesticide classification, will segregate products into two groups—general and restricted use pesticides. General use pesticides will be those which can be used safely in accordance with the label directions without special application knowledge, and will be available to the public. Restricted use pesticides have a potential for unreasonable adverse effects which can be reduced by proper application techniques. After October 21, 1977, restricted use pesticides may only be applied by or under the supervision of applicators who have been determined competent in the use of restricted use pesticides.

To determine applicators competent to use restricted use pesticides, a state agency, usually the state department of agriculture, will establish a training and/or examination scheme which meets minimum federal standards. U.S. EPA will review the training and examination program, as described in the state plan, and if adequate, will approve it. There will be two groups of certified applicators, private applicators (farmers, ranchers and other producers of agricultural commodities) and commercial applicators (all other certified applicators).

By October 1977, all six Region V states will have approved applicator certification plans. Over 16,000 private and 20,000 commerical applicators have been trained by the states as of October, 1976. To support certification efforts in Region V, EPA has provided over 1.14 million dollars to state agencies to establish certification programs, and over 1.07 million dollars to state cooperative extension services to train applicators.

In addition to the high volume of pesticide use, Region V has a great deal of pesticide production. The six state region has over 6,000 registered products, and over 1,100 registered pesticide producing establishments. These establishments are subject to inspection by EPA's consumer safety inspectors, who conducted over 600 inspections last year and collected over 900 samples for label and laboratory examination.

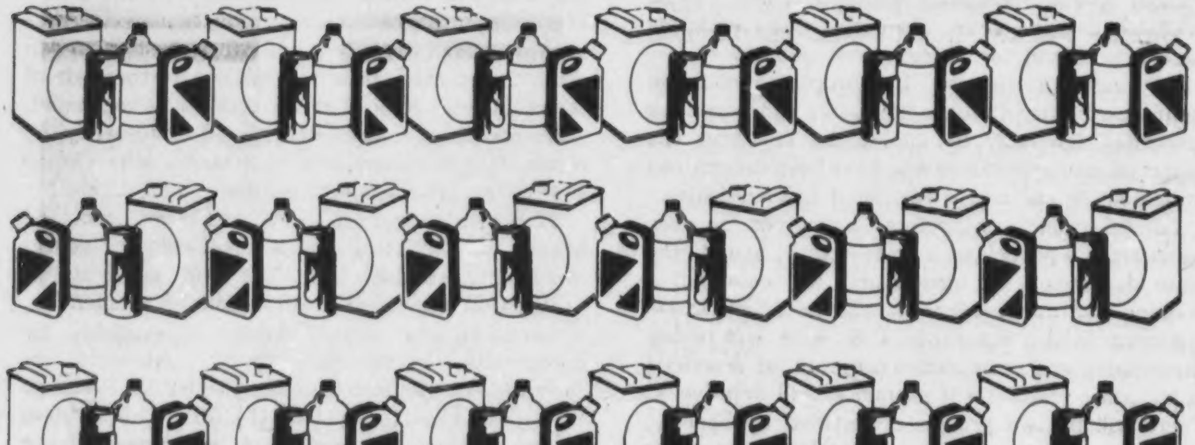
Upon detecting a violative product, the Region may take a number of different enforcement actions. If continued sale of violative products pose a serious hazard to man or the environment, the Region can issue a Stop Sale Order withholding further sale of the product(s). A recall of products can be requested, and a books and records inspection done to verify the recall. Manufacturers and distributors who violate FIFRA are also subject to fines.

To better protect the public and lower costs, the branch is negotiating a number of cooperative enforcement, accident reporting and accident investigation agreements with various state agencies. Nationwide, one million dollars is available for cooperative enforcement efforts. Accident information is examined in depth with EPA's Pesticide Episode Reporting System (PERS). This system allows accident information to be retrieved by a number of parameters, to facilitate detection of problem areas of pesticide use.

30,000 new chemicals are introduced every year

(What's the next one going to do to you?)

Region V, U.S. EPA is holding a public meeting on the Toxic Substance Control Act, March 3, 1977 at the Palmer House Hotel, Chicago, Ill. Morning and afternoon sessions will deal with technical and industrial questions about the new act. The evening session focuses on human health and toxic substances. We value your opinion. We want your comments. Send written statements in advance to Lee Botts, U.S. EPA, 230 S. Dearborn, Chicago, Ill. 60604. No advance registration is necessary. More information can be obtained by calling Jane Kenneally at (312) 353 2072



EPA/DOC conference

Pollution prevention pays learns industry

Pollution can be stopped at the source learned representatives from more than 200 of the Fortune 500 companies at a January conference jointly sponsored by the midwest office of the U.S. Environmental Protection Agency and the Department of Commerce.

Industrialist and federal officials rubbed shoulders for two days in first-of-its kind conference that showed pollution prevention can be profitable.

The national conference was organized by the midwest office of U.S. Environmental Protection Agency, and the Department of Commerce in close cooperation with 3M, Dow Chemical and Republic Steel.

Corporate decision makers heard EPA officials admit that regulatory agencies can't build scrubbers or redesign equipment; only, industry can do the actual clean up.

In turn, business leaders learned from regulatory experts and industry converts that it's possible to achieve substantial cost benefits at the same time they are cleaning the environment.

"Pollution prevention is wasteless technology," said Lewis Lehr, President of 3M Company's U.S. operations, one of the industrial sponsors of the conference.

Lohr went on to describe 3M's two year old pollution prevention program that has saved the companies $11 million while eliminating 73,000 tons of air pollutants, 500 million gallons of polluted waste water and 28,000 tons of sludge annually.

(continued to page 14)

Lehr

Florio

EPA's former chief Russell Train and former Secretary of Commerce Elliot Richardson held a news conference on the first day of the conference to answer questions about profitable pollution prevention. Lewis Lehr of 3M and James Florio of N.J. were key speakers at the conference.

air

U.S. Steel

U.S. Steel Corporation has formally signed an agreement with EPA to clean up air pollution at its huge Clairton coke works at Pittsburg by the late 1980s. U.S. Steel says the anti-pollution program will ruin potential for future expansion in the area.

Michigan State recieves notice

Calling Michigan State University perhaps the largest air polluter in Michigan, the EPA has ordered the University to clean up or risk losing million of dollars in federal grants.

EPA ordered a hearing for January 5 with the MSU officials who claim that they do not have the money to clean up.

EPA charges that emissions from MSU's main power plant exceed federal limits by more than six times.

EPA Chief of Air Enforcement, David Kee, said "MSU is certainly one of the largest air polluters in Michigan if not the largest. We can take no excuses."

The school has been given a formal notice of violation which orders it to make some progress in reducing the pollution.

"We can's accept the excuse that government institutions don't have the funds, when we are forcing private concerns to clean up their problems every day," Kee said.

water

U.S. Steel Seeks Cleanup Delay

Attorneys for U.S. Steel Corp. told a U.S. Court of appeals recently, that Gary Works officials cannot meet federal water pollution standards by July 1.

The company will have to shut down its 13 blast furnaces, if an EPA permit is not extended.

The permit, issued in 1974, is, in effect, an order limiting the amount of waste the steel corporation can discharge into the Grand Calument River, a tributary of Lake Michigan.

The EPA permit requires the company to curb its ammonia wastes by 60 percent, cyandie by 95 per cent, and phenol by 90 per cent, by July 1.

Filter Tests Positive

Preliminary tests of the Duluth's $6.9 million water filtration plant show it has a high level of effectiveness in removing asbestos.

Duluth Mayor Robert Beaudin said tests show the system removes 99.93 per cent of the asbestos. The number of fibers in the water brought into the plant contained 0.12 milligrams of asbestos fibers per liter. After filtration the number was reduced to 0.0008 milligrams per liter.

Final Water Standards Issued for Toxic Pollutants

EPA Administrator Russell Train recently announced the issuance of final water pollution control standards to limit industrial discharges of five toxic chemicals pollutants.

The new rules to protect public health strictly regulate the direct discharges of wastes into waterways from industries making or using benzedine or the pesticides aldrin/dieldrin, DDT (and related compounds), endrin and toxaphene.

The standards are the first toxic discharge controls to be issued under Section 307(a) of the 1972 Water Pollution Control Act. They will result in significant reductions in industrail discharges of these toxic pollutants.

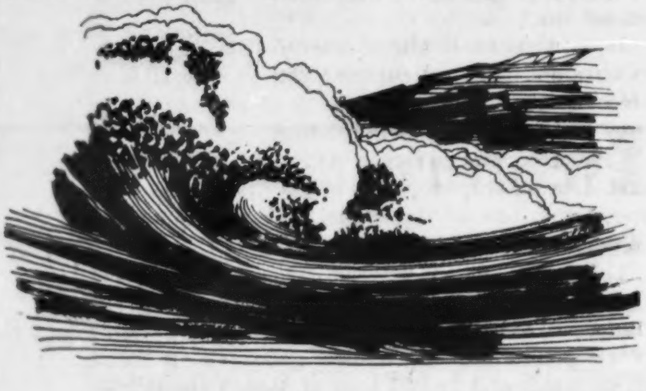
"Today's standards will serve as a pattern for future regulations dealing with other toxic water pollutants discharged by industry," Train said.

Athens Area Mine Permit Denied

The Ohio EPA has denied a discharge permit for a strip mine strongly opposed by residents in a scenic area east of Athens.

The JRC Coal Co. was given 30 days to appeal a review the ruling which in effect stops the proposed mining. The wastewater would have to be hauled from the mine area and disposed elsewhere.

Ned Williams, Ohio EPA Director, upheld the residents' contention that the mining would have a serious detrimental social and environmental effect on the area where many new and relatively high priced homes have been built in the last 15 years.



pesticides

Train Responds to Pesticide Criticism

EPA Administrator Russell Train said recently that criticism of the EPA pesticide program was faulty in omitting any discussion of the basic problems and issues facing the pesticide program today. These problems include time, enormity of the job and the resources available.

Train's comments came in response to a report issued by the Subcommittee on Administrative Practice and Procedure which claimed that the pesticide program is in a state of chaos. The subcommittee is chaired by Sen. Edward M. Kennedy.

"The report omits any discussion of the steps EPA has taken to select potentially dangerous drugs out of the reregistration process for an intense review."

Train also said, in a letter to Sen. Kennedy, his most vehement complaint was the report's remarks that "EPA was intentionally trying to deceive the public . . . and that the Agency is violating its own regulations."

He said, "I know of no other Agency which believes more strongly in open decision-making."

Health

Michigan Health Report Grim

The general health report of southeast Michigan's 4.7 million residents is not good and there are no immediate cures, according to a recent report to the area's chief health planning agency.

The report said there are no quick solutions because many of the health problems are self-induced, or "diseases of industrialized societies" rather than "diseases of aging."

Among the reasons for the poor state of health, according to the report, are maldistribution of doctors and nurses, smoking, urban decay, poor health care planning, and environmental pollution.

The report, called "The Health Systems Plan for Southeastern Michigan," was prepared by the plan development and coordination Committee of the Comprehensive Health Planning Council of Southeastern Michigan.

Lung cancer, caused primarily by cigarette smoking and air pollution is blamed as the main cause of increasing cancer death rates.

The report also said that asthma, bronchitis and emphysema occur in southeastern Michigan twice as often as the rest of the state.

PBBs

(continued from page 7)

One recommendation of the Scientific Advisory Panel was immediately implemented," that the Michigan Department of the Public Health with the advice and assistance of appropriate and knowledgeable external scientific advisors, implement to a chemical follow-up of those individuals who were exposed to PBB during the acute contamination episode and other individuals who might have been subsequently exposed." During November, 1976, an intensive medical examination and history of these individuals was undertaken by 35 researchers from the Mt. Sanai Medical Center under the direction of Dr. Irving J. Selikoff. Although a preliminary report released in January, 1977, has indicated that two-thirds of 1,209 individuals examined are perfectly healthy, Selikoff has urged that these results be "taken with caution" until the final analyses are completed.

In the final analyses of PBB incident we reflect on the thousands of cattle and livestock which have been destroyed, the contamination of many farms, and the anguish of so many individuals who have experienced or asked if they will experience cumulative health effects from prolonged exposure. Hopefully, with the strong implementation of the newly enacted Toxic Substanes Control Act, the cooperation and interaction of industry, the scientific community, governmental agencies, and the private citizen, disasters of this nature will be avoided in the *futre.*

Etcetera

Comments wanted—

Should special interest groups be funded by the U.S. Environmental Protectpon Agency if they have helped the agency in an official presentation or project? The public affairs office is seeking comments on a Jan. 7, 1977 Federal Register proposal that considers financial assistance to certain interest groups for participating in agency proceedings. For a copy of the Federal Register notice please write EPA Public Affairs Office, 230 S. Dearborn, Chicago, Ill. 60604. Comments are needed by April 1, 1977.

Health, energy needs explored

The impact of energy utilization on human health will be explored in a three day workshop March 23-25 at the University of Illinois' Medical Center Campus, Chicago, Ill.

The workship is cosponsored by the Chicago Lung Association, and the U.S. Office of Environmental Education (H.E.W.).

The workshop will be of interest to all who are concerned with the review and evaluation of environmental impact analyses. Questions should be directed to Joan Haley at 312 243 2000.

EPA/DOC conference

continued from page 11

The 3M Chief said the company has put into practice the belief that the best way to clean-up is in the design state.

Pollution can be stopped at the source by instituting basic process changes in the company's operation, such as product reformulation, process modification, equipment redesign, recovery of waste materials for reuse, and the development of new technology.

Both Dow and 3M officials agreed that waste less technology has unexpected benefits.

Two years ago, researchers at 3M's Cordoba, Illinois plant rearranged the ingredients in a bad smelling herbicide. The process change eliminated the odor and a million dollar waste treatment plant proposed to treat the odor problem.

In another case at 3M, carbon dioxide was substituted for environmentally questioned fluorocarbons as a spray can propellant. By using the carbon dioxide the manufacturer not only squeezed another 20 per cent of his product into the can at no increased price to the public, but also helped the earth's ozone layer.

Russell Train, former EPA Chief and a key speaker at the conference, related that the J.R. Simplot Company in Caldwell, Idaho had completely stopped its massive discharges of potato processing waste into the Boise River by spraying the nutrients on pasture land, doubling its annual forage production and supporting 26,000 cattle.

Dr. Joseph Ling, 3M's chief environmental Director, said all of industry should develop resource conservation as a value system.

Dr. Earle B. Barnes, Executive Vice President of Dow Chemical Company, related how Dow's Louisiana Division has reduced hydrocarbon emission by 75 per cent in the past three years at a capital outlay of $3 million. In the same period Dow recovered hydrocarbons worth $100,000 per year. . .or a 3 per cent return on the company's investment.

In areas where the climate is conducive to evaporation, such as in western divisions, Dow has converted everything to solar evaporation with a zero discharge in the water. At Freeport, Texas, only ten miles from the Gulf, Dow installed biochemical oxygen demand (BOD) ponds.

Steel executives, however, told EPA officials and the other industrialist that it was not as easy as it appeared to take the first step down the road to environmentally safe manufacturing.

John Lowey, Executive Vice President of Republic Steel Company,Cleveland,observedthat the clean-up honeymoon had never begun. The steel industry has yet to find ways to avoid costly end-of-the-pipe pollution abatement, said Lowey.

"Steel making is a very old industry in which innovations develop slowly and require large capital investments," said Lowey.

The Republic executive said his company already spends more on pollution control than it does on dividends to its stockholders, an amount equal to about one dollar per hour per employee.

"Ironically, the oldest and dirtiest equipment is also the most profitable to the steel makers," said Lowey. "The money it would take to build new plants could price American steel out of the market," warned the Republic executive.

The steel industry is just now beginning to fully utilize computerized strip mills to replace the methods and facilities discovered at the turn of the century.

Train countered Lowey's analysis. Train said the steel industry should, perhaps, hasten its research into cheaper ways to make steel. Currently, Japan and Russia use other methods mentioned by EPA personnel at the meeting. "Already, EPA has been subsidizing up to 35 per cent of cost of pollution reducing research and development projects in a number of industries including oil refining, chemicals, textiles, paper, timber and dairy treatment," said Train.

Train said former pollution prevention had concentrated on end-of-the-pipe treatment and that the Internal Revenue Service had only allowed tax write-offs for that type of prevention.

In the future, conference speaker Congressman James Florio of New Jersey said, Congress would consider tax incentives for process design as well as end-of-pipe treatment.

In other areas, David Comey, Executive Director of Citizens for a Better Environment, told the conference that regardless of the costs of clean-up, they had better get on the job.

"The public has a low threshold for deformed babies and cancer," Comey emphasized. "A new political rebellion is going to take place as the evidence comes in on the toxicity of many of our processes and products."

Comey said the public may start sending cupable corporate officials to prison for failing to obey regulations.

"It is fine that we are cutting down on BOD and suspended solids and ammonia and particulate matter and all of the gross pollution. But what are we doing about the polynuclear aromatic hydrocarbons and the haloethers and the chlorinated benzenes and all of the rest of our lethal chemical cornucopia?" asked Comey.

Comey suggested companies find out if their material is toxic

from the supplier. If the supplier does not have the information work with EPA on a testing program, advocated Comey.

Better yet, advised EPA program people, try to avoid toxic substances out of the manufacturing programs.

As Barnes said, industry and the environmentalist can not continue to hit heads. It is time to work towards a common goal.

Federal Register

DECEMBER 3

Rules

- Air pollutants, hazardous; National emission standards:
  - Arizona
  - Vinyl chloride; correction
- Air pollution; standards of performance for new stationary sources:
  - Arizona; authority delegation
- Water pollution; effluent guidelines for certain point source categories:
  - Electroplating; suspension and revocation

Proposed Rules

- Water pollution; effluent guidelines for certain point source categories:
  - Electroplating

Notices

- Air pollutants, hazardous; performance standards for new stationary sources and National emission standards:
  - Pima County Health Department, Arizona; authority delegation
  - U.S. Virgin Islands; authority delegation; correction
- Meetings:
  - Environmental Measurements Advisory Committee
- Pesticide applicator certification; State plans:
  - Vermont
- Pesticide registration:
  - Applications

DECEMBER 7

Notices

- Meetings:
  - Toxic Substances Control Act

DECEMBER 8

Rules

- Air quality implementation plans; various States, etc.:
  - California

Notices

- Air pollution; ambient air monitoring reference and equivalent methods
- Air quality criteria for atmospheric lead; availability of external review draft
- Environmental statements; availability of agency comments
- Meetings:
  - Panel discussion on polychlorinated biphenyls
  - PCB Work Group
- Pesticides; specific exemptions and experimental use permits:
  - Mobay Chemical Corp
  - New York State Agricultural Experiment Station

DECEMBER 9

Rules

- Water pollution; effluent guidelines for certain point source categories:
  - Timber products processing

Notices

- Meetings:
  - Science Advisory Board Executive Committee
- Pesticide chemicals; tolerances, exemptions, etc.; petitions:
  - Chevron Chemical Co
- Pesticide registration:
  - Applications (2 documents)

DECEMBER 13

Rules

- Water pollution; effluent guidelines for certain point source categories:
  - Pesticide chemicals; correction

Notices

- Air quality standards; ambient monitoring applications:
  - Mine Safety Appliances Co
  - OMB Circular A-90; information systems policy
  - Pesticide applicator certification; State plans; Montana
- Pesticides; specific exemptions and experimental use permits:
  - Agriculture Department; dimethoate, Guthion, and malathion for citrus blackfly
- Plant closings attributable to environmental regulations; request for information

DECEMBER 15

- Approval and promulgation of implementation plans, revision to Madera County, Calif. rules; comments by 12-23-76.
- Approval and promulgation of implementation plans for air pollution control, revision to Kings County, Calif. rules; comments 12-23-76.
- Inorganic chemicals manufacturing point source category, specialized definitions; interim final amendment; comments by 12-23-76.
- Loan guarantees for construction of treatment works; comments by 12-23-76.
- Tolerance for the pesticide Thiophanate-Methyl; comments by 12-20-76.

Environment Midwest is a monthly newsletter published by the Public Affairs Office, Region V EPA, 230 S. Dearborn, Chicago, Ill. 60604.

The Federal Register provides a uniform system for making available to the public regulations and legal notices issued by EPA and other Federal agencies. It will be furnished by mail to subscribers, free of postage, for $5 per month or $50 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

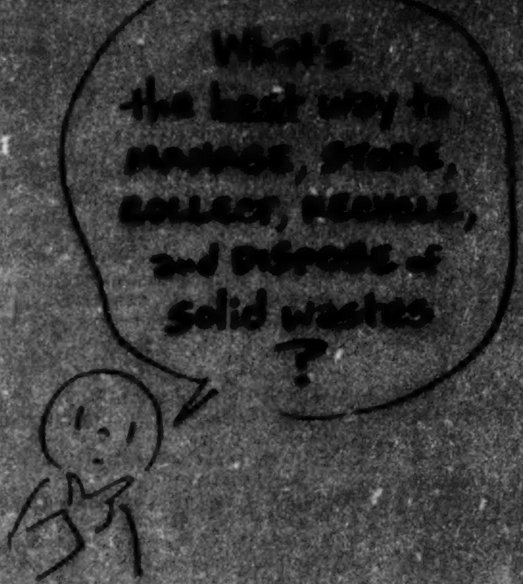
Readers interested in obtaining all of the EPA regulations promulgated in the Federal Register may do so by ordering Title 40, Code of Federal Regulations (40 CFR) from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. The 1976 edition of 40 CFR (in five volumes) has been published. The volumes and their prices are: 0-49, $3.15; 50-59, $6.80; 60-99, $5.70; 100-399, $4.50; 400-end, $6.70.

As a service to our readers, Region V has requested that the GPO Bookstore at 219 S. Dearborn, Room 1463, Chicago, Illinois 60604 stock a small number of these volumes. To determine if they are currently in stock there, call (312) 353-5133.

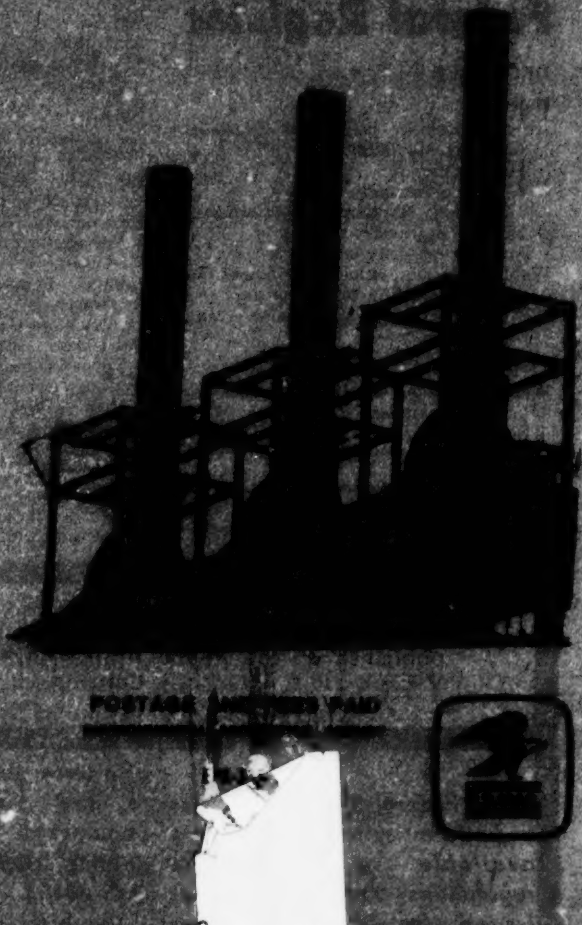
Clean air vs. industrial growth

Must it be a dilemma?

A public hearing on U.S. EPA's emission offset policy will take place March 17 at 230 S. Dearborn, Chicago, Ill. Call Jane Kennelly at 312 353-2072 for more information.


What's the best way to manage, store, collect, recycle, and dispose of solid wastes ?

Find out about solid waste, sanitary landfills, hazardous waste disposal, recycling, resource recovery and more at the U.S. EPA's Resource Conservation and Recovery public meeting March 21 and 22 at O'Hare Holiday Inn, Rosemont, Ill. Contact Jane Kennelly at 312 353-2072 for more information.



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MARCH 1977

. . . This committee can be assured that I will be dogged and persistent in insisting that economic and energy activities provide full recognition of public health and other environmental values. . . . In short, I intend to enforce the law . . . Douglas Costel, EPA administrator.

. . .Environmental issues are not transient problems to be solved and forgotten. . . . Rather they represent a permanent and ongoing commitment. . . . Barbara Blum, EPA deputy administrator.

—Rhodes allows coal use;—

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Continued from 1

Lucey

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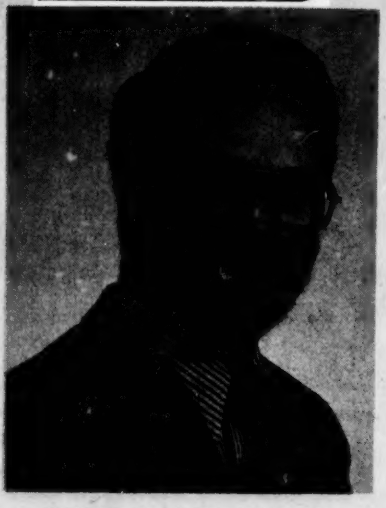

GEORGE R. ALEXANDER JR.

By NEIL H. SHIVELY
Sentinel Madison Bureau

Madison, Wis. — Gov. ucey asked Wisconsin citi-ens Monday night to lower mperatures to "the lowest lerable levels" to save ener-y.

Lucey suggested 63 de-rees as a tolerable tempera-ure. He said enough energy heat 300,000 homes for the alance of the winter could e saved if everybody fol-owed that recommendation.

turn down water heaters to the lowest possible setting.

•Limit electrical usage. "Instead of turning on a space heater, put on a sweater," said Lucey. "Instead of using an electric dishwasher, wash dishes by hand."

When electricity is used, it should be during the nonpeak hours when businesses and industry demands are lower, the governor said. "If appliances must be used, they should be turned on between 8 p.m. and 7 a.m. whenever

The governo seven minute sp Lucey househol example.

The thermost hot water hea turned down, ceys — both washing the dis

Lucey's talk to the state on energy problem

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A Report

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Administrator reviews weather-energy crisis

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guarantee state loans to make l more fuel efficient, and provi income tax deduction for home lation. It calls for an investigat ent emergency ill sparked a small c

HAMMOND — Northern India Service Co. today cut by half its gas allocations to all industrial c as the area entered its 31st strai below-freezing temperatures.

"Cold weather—not Environmental Protection Agency regulations—is the cause of the current energy crisis," George R. Alexander, Administrator for Region V, said in late January as he reviewed plans by all six of Region V's states to grant emergency exceptions to clean air regulations.

At that time of severe crisis he said, "We have a very critical situation and I feel we have to be very reasonable and cooperative during this extremely cold period, although I do not expect any temporary permits to stop our long-term efforts to obtain clean air."

Since the crisis began, Alexander has had the air division prepare weekly reports for the White House on what's happening to air quality in the Midwest during the energy crisis.

The White House reports have given the enforcement staff immediate information to relay to state pollution control agencies and industries unsure if they could or should switch to alternate fuels during the natural gas shortage.

"We let industry know that if they could switch fuels and save jobs during the natural gas shortage, we would alter our air requirements. We are a flexible agency," Alexander said.

State pollution control officials and EPA air technical division employees have been working together to determine which parts of every state would have the least air pollution problems if coal is used as the main energy source.

Alexander reminded state agencies that EPA has no ban on the burning of coal or high or low sulfur fuel. In fact, EPA has pushed for power plants to convert to coal whenever possible.

"We are trying to encourage the use of coal," said Alexander, explaining that EPA has issued okays to utilities converting to coal.

Historically, the major problem EPA has with coal as fuel is that industry has not been willing to install the scrubbers or other mechanicial devices necessary to clean the sulfur dioxide from the coal smoke.

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Bowen Places State Under Disaster Law

Gov. Otis Bowen exercised his authority under state civil defense laws by declaring an energy emergency yesterday and authorizing an easing of environmental regulations to permit some firms to switch fuels.

The law, enacted in 1951 and revised in 1975, gives the governor power to declare a "disaster emergency" if he finds a disaster has occurred or that the occurrence or the threat of one is imminent

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Environment Midwest is a monthly newsletter published by the Public Affairs Office, Region V EPA, 230 S. Dearborn, Chicago, Ill. 60604.

George R. Alexander, Jr. ....Administrator
Valdas Adamkus ....Deputy Administrator
Frank Corrado ....Public Affairs Director

Letters Sound-off

George R. Alexander Jr.
Director, Region V
US EPA
Chicago, Illinois

Dear Mr. Alexander:

I wish to say "thank you", albeit somewhat late, to Region V for the citizen activist award. It was fun.

I promised a question for your page in Environment Midwest. It is this: *Why haven't the pretreatment standards called for in 92-500 been pursued with vigor before design of treatment plants is considered? Wouldn't land treatment of sludges and effluent be more feasible if removal of heavy metals were required before passing through the treatment plant?*

Sincerely,
Patricia Evans
2142 Noe-Bixby Rd.
Columbus, Ohio 43227

Dear Ms. Evans:

I want to thank you for submitting questions pertaining to the pretreatment issues for the *Environment Midwest*. Pretreatment standards for introduction of pollutants into publicly owned treatment works were to be developed under Section 307 (b) of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500). In July 1973 the EPA published a notice that written comments were being solicited from the public on proposed rulemaking. Also, a public hearing was held in September 1973, to receive additional comments. From the comments received, initial guidelines were published in November, 1973. Under Section 307 (b) of the Act, Federal pretreatment standards are designed to achieve three purposes: (1) To protect the operation of publicly owned treatment works, (2) to prevent the discharge of pollutants which pass through such works inadequately treated; and (3) assign costs of treating industrial wastes to the sources in an equitable manner.

However, several basic issues surfaced when EPA considered pretreatment guidelines on a national level: (1) the EPA has been unable to formulate specific numerical limitations for the discharge of pollutants that interfere with the operation of publicly owned treatment plants due to insufficient data, (2) it is impossible in a uniform national pretreatment standard to relate the quality of the user's effluent to the concentration of various pollutants in the publicly owned treatment works since this is quite variable in any system, and (3) the Agency recognized that effluent limitation guidelines would have to be refined to deal with problems that may arise in the application of such guidelines to users of publicly owned treatment works and that particular industrial categories should be individually considered.

The EPA, therefore, encouraged the establishment of local pretreatment requirements tailored to the conditions at a specific publicly owned treatment works. Such requirements are considered essential to ensure compliance with permits issued under the National Pollutant Discharge Elimination System. Since that time several municipalities have established local pretreatment standards. If municipal sewage treatment plants are held responsible for effluent quality and penalized for violation, they will pass the cost on to responsible parties.

The EPA is encouraging other alternatives to pretreatment such as source control and resource recovery systems. As resource recovery becomes better utilized the influent to wastewater treatment plants can be expected to increase in quality.

Any methodology used to decrease the concentration of heavy metals in sludge and effluent would prove beneficial when a municipality is considering land application systems. The EPA is in the midst of developing final guidelines concerning municipal sludge management. These guidelines will aid us in pursuing a uniform policy for the application of sludge to land for food chain and non-food chain products. However, at the present time the technical ability to economically remove heavy metals from sludge during the treatment process does not exist.

A new technique for sludge reduction and utilization that is currently being developed is pyrolysis. Pyrolysis is a modification of the incineration process that limits the amount of oxygen necessary for complete combustion. The process can be established using modification to existing incinerators. The well run system produces methane gas which can be used to produce energy for the treatment process. Also, the process decreases the stack emissions that the normal incineration process creates. The ash from the process is free of toxic chemicals and pathogens, but high in heavy metals. At high concentrations of heavy metals, recycling may be feasable.

The future of pretreatment, resources recovery and source control is presently controlled by local governments. The topic will be considered at a later date by the Residual Sludge Working Group in Washington, D.C. During this interim period, pretreatment standards for individual processes will continue to be developed and effluent limitation guidelines will be published as our ability to identify and treat wastes expands.

We are holding a pre treatment guidelines meeting April 19 and 20 in Chicago. Our water division can give you more information . . .

Sincerely yours,
George R. Alexander, Jr.
Regional Administrator

Reserve Mining's future remains uncertain

By Cynthia Brucato

(Editor's Note: Cynthia Brucato, a former editor of **Environment Midwest,** *is presently anchorwoman for WDIO-TV in Duluth, Minnesota.)*

Two months ago, eleven Minnesota state senators took a trip to Reserve Mining Company's Silver Bay operation to view the environmental controversy.

Several hundred Silver Bay residents crowded into the high school auditorium to offer their testimony and listen to what the legislators had to say, in hopes that those eleven people could resolve the environmental dispute which they believed threatened to destroy their lives.

In the last year and half, the Reserve workers and their families have become the most vocal party to the problem of when and how the company should stop dumping its taconite tailings into Lake Superior.

During state hearings on where an on-land tailings basin should be built, Silver Bay residents were on hand, often travelling to the Twin Cities area to observe the happenings.

When the Minnesota Pollution Control Agency made its final decision on the disposal site, residents once again travelled by the busload to the Twin Cities, overflowing the PCA's meeting room.

Shortly after that, residents staged a protest at the Democratic state convention in Duluth. They demanded that then-Governor Wendell Anderson force the state to approve Reserve's preferred disposal site, and avert the realization of the company's threat to close if it did not obtain it.

Most observers feel that Silver Bay residents have good cause for protest. They are facing not only Reserve's threat to close, but a federally imposed shutdown date of July 7, 1977. That order, by District Judge Edward Devitt, states that if Reserve and the state of Minnesota can not agree on a disposal site by this July, the company must cease its 20 year practice of dumping 67 thousand tons of taconite tailings into Lake Superior every day.

The uncertainty appears to have taken its toll among residents of Lake Superior's north shore communities.

According to a study by the Minnesota Public Interest Research Group, there is an increase of social maladies among these people. The divorce rate is higher. Alcohol and drug dependency is on the upswing. Juvenile delinquency is reported to be increasing.

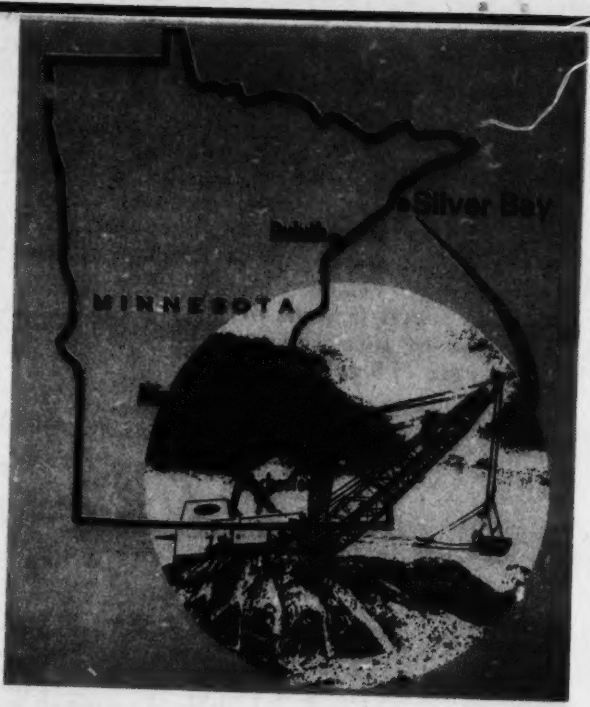
Says one Reserve worker, "We are sitting here waiting for the axe to fall."

Many observers are now saying that whoever is guilty of an acknowledged environmental and health hazard, the people of Silver Bay should not have to suffer the consequences.

A recent editorial in **The New York Times** states, "The adversaries are by now standard: Health , jobs, profit and the public interest. But here the dilemna of victory is drawn with cruel and unusual clarity. Whose public interest? Who loses? Who should lose?"

A Minnesota district court emphatically decided it should not be the people of Silver Bay who lose. It recently issued an order, overturning the state's rejection of the Milepost 7 site (Reserve's preferred disposal site). Should Reserve close, said the court, homes, the main asset of thousands of the company's employees, would be almost valueless. Because of the nature of the work force and the ages of many of the workers, the court went on, many would find it impossible to obtain suitable reemployment. And if they did, most would be required to accept positions at lower pay levels than they currently have, the judges said. The court concluded that unemployment compensation, welfare and other government aids would be a poor substitute for the people affected.

That same **New York Times** editorial chastised government for its attitude toward the workers: "Yes, government has the duty to protect the public from pollution of the country's air and water. But the brunt of change must not be



allowed to fall on those who are most vulnerable and innocent of all."

U.S. Representative James Oberstar of the seventh congressional district which incorporates Silver Bay has approached the Commerce Department's Economic Development Administration about preparing some contingency plans.

A state regional planning commission has been given a 100 thousand dollar grant to examine economic alternatives for Silver Bay.

The Minnesota Public Interest Research Group, in its study, cites a number of things the town of Silver Bay could do to keep itself on the map. One solution, says MPIRG, can be found in the area's recreational attractions.

But all of these are preliminary studies. As yet, there is nothing concrete to help Silver Bay exist if Reserve Mining moves out.

Contrary to what one might expect, the people themselves are not particulary vehement about getting some real plans for their future. They are vehement about only one thing: that the state grant Reserve permits for Milepost 7.

As of the last judicial decision on the permit controversy, it looks as if the Silver Bay people may get their wish.

Reserve's permit applications for Milepost 7 are part of a chain of legal events which goes back several years.

After two and a half years of federal administrative proceedings, the matter of stopping the company's discharge into Lake Superior was placed before Federal District Judge Miles Lord. That was in 1972.

The trial in Federal court began in August, 1973, and continued for nine months. During that time, much of the evidence considered concerned the fact that asbestos-like fibers, similar to those known to cause cancer, were contained in Reserve's tailings discharge.

In April, 1974, Judge Lord ordered that the discharge cease immediately. For two days, the Silver Bay plant was closed. It reopened after the Eighth Circuit Court of Appeals in St. Louis stayed Lord's order.

In March, 1975, the appeals court ultimately upheld Judge Lord's abatement decision, but considerably extended the due date. The five judge panel said that Reserve must be given a reasonable time to construct tailing disposal facilities on land.

By that time, Reserve had already submitted applications to the Minnesota Pollution Control Agency and the Department of Natural Resources for permits for the Milepost 7 site. The permit hearings began in June, 1975, with a state-appointed hearing officer, Wayne Olson.

Meanwhile, District Judge Miles Lord was removed from jurisdiction over the Reserve case by the court of appeals. This action was taken after Reserve attorneys charged that the judged was biased and acting in an unjudicious and inappropriate manner.

The case was subsequently turned over to District Judge Edward Devitt.

In May, 1976, hearing officer ,Wayne Olson published his findings. He recommended that the state deny permits for disposal at Milepost 7.

A rather unexpected move then came from the Pollution Control Agency. It decided to reject the hearing officer's findings and grant the permits for Milepost 7.

The Department of Natural Resources, however, accepted the hearing officer's report as final. It rejected the permit applications.

More surprises were due from the PCA. Two weeks after its first decision, the PCA reversed itself and rejected the permit applications also.

This was in June, 1976. One month later, Judge Edward Devitt issued his July 7, 1977 shutdown order. In November, 1976, Reserve was back in court, appealing the permit denials.

There were then more weeks of testimony in Minnesota district court. On January 31, 1977, the three judge panel delivered its not unexpected decision: the state's permit denials were overturned, and permits for Milepost 7 were to be issued as soon as possible.

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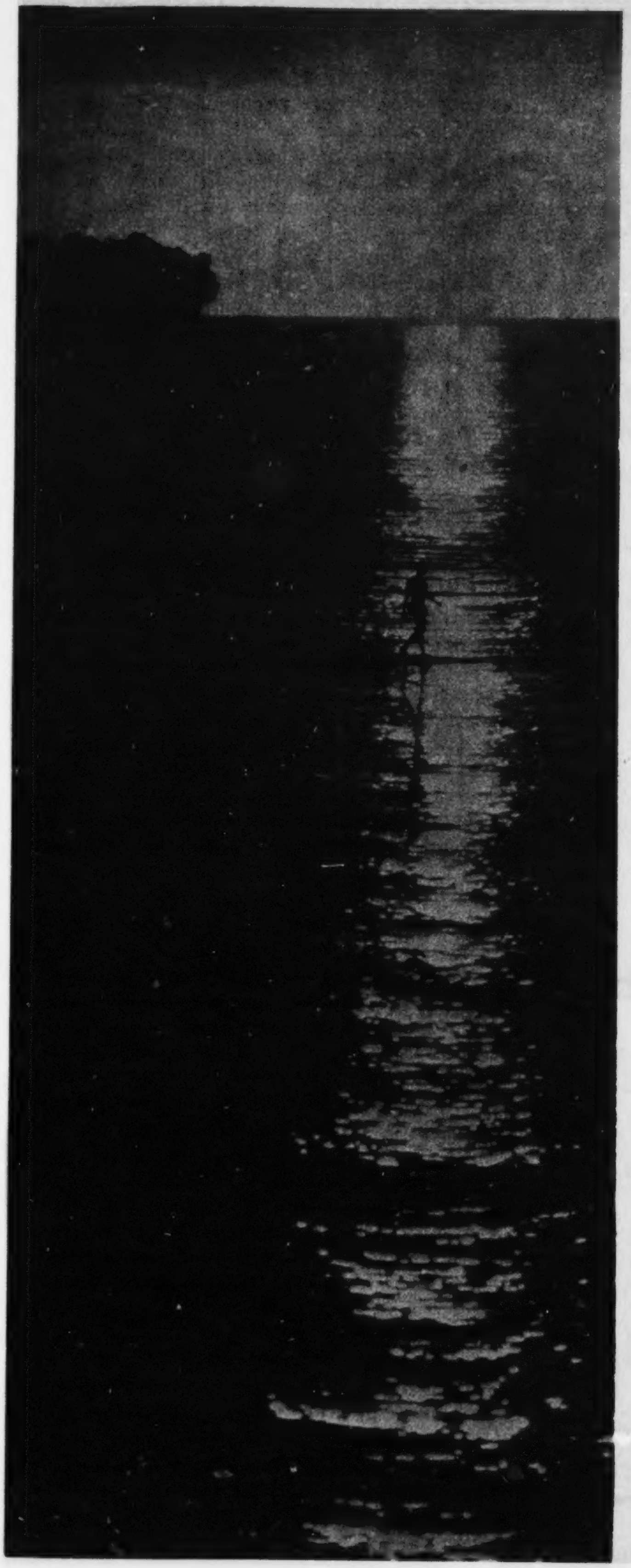
Documerica

"Environment Midwest," a color panorama of scenes depicting the quality of life in the Midwest, produced by the Region V EPA, is on display at state capitols throughout the Region.

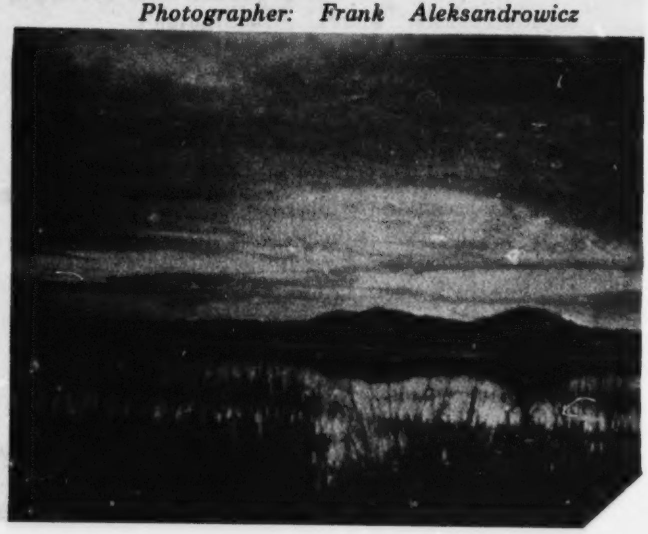


Fisherman seems to walk on the waters of Lake Erie as they near top of breakwall
Cleveland, Ohio

Photographer: Frank Aleksandrowicz

City boy picks corn he will feed to hogs at 19th century farm preserved near Akron, Ohio

Photographer: Frank Aleksandrowicz



This 22-photograph documentary was selected from the 16,000 images of EPA's Project DOCUMERICA, produced in the early 1970's. The Project commissioned 130 of the nation's finest photographers to document the country's environmental conditions, and encouraged documentation of the human connection to man's environment. "Environment Midwest" consists of people and agricultural, urban, architectural and nature scenes.

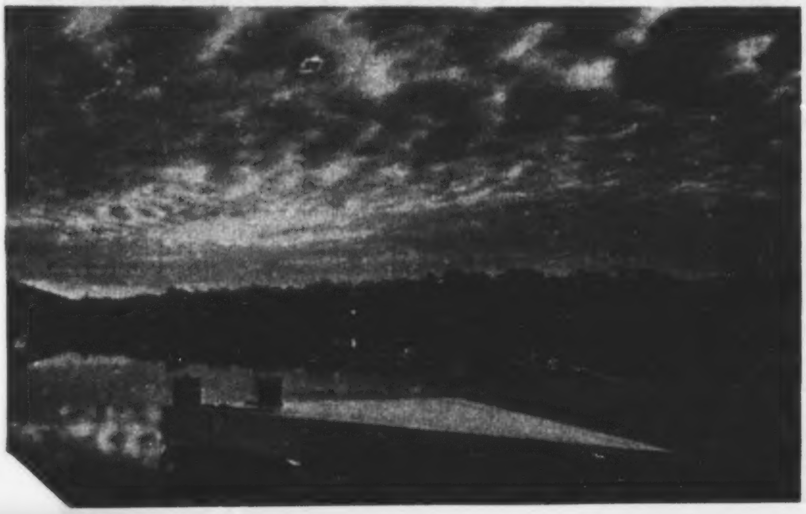
Alexander Calder's Sculpture "Flamingo" and architecture of Dearborn Street, Chicago

Photographer: Perry Riddle

Photographer: Declan Haun *Photographer: Frank Aleksandrowicz*

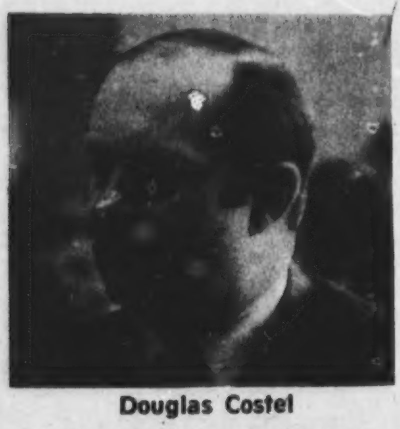
Midwest history preserved at Hale Homestead. South of Cleveland, Ohio

The First Baptist Church, one of many architectural beauties in Columbus, Indiana



Scenic Bass Lake: Year-round vacation spot near Muskegon, Michigan

Photographer: Paul Sequeira



Douglas Costel

Confirmation hearing exclusive:

New EPA chiefs tell environmental views, aims, hopes

Courtesy Water Pollution Control Federation, Photographs by Carolyn R. Segree.

Editor's Note: A first opportunity to see Douglas Costle and Barbara Blum—the new EPA leadership team—in action came during recent confirmation hearings in Washington. Here are some excerpts from their hearings on key issues facing EPA in the coming months and years ahead:

INDUSTRIAL DEADLINES

An urgent priority before EPA is to complete the task of controlling emissions from major point sources of air and water pollution. Sources not yet meeting requirements particularly those which are dragging their feet must be brought into compliance as rapidly as possible. . . Noncompliance fees which we experimented with in Connecticut and which this committee is supporting may be an effective . . .incentive. . . Much more attention must be given to insuring the effective operation of control facilities once they are in fact installed. It is simple to determine whether a firm has installed pollution control equipment. It is far more complicated to ascertain that the firm is operating and maintaining its equipment at full efficiency. I believe this will emerge over the next four years as a major enforcement problem and I plan to begin work on it now.

AIR POLLUTION AND GROWTH

We must also develop an improved approach and or process for reconciling the necessity for environmental protection with our goals for growth. This issue has arisen in its most dramatic current form with regard to new sources of air pollution in non-attainment areas. . . I have no solution to this problem to offer you today. I do believe, however, it is critical to define an approach on how to proceed.

For too long environmental concern has been portrayed as the obstacle to energy development. This administration believes that environmental protection is not an obstacle but merely a necessary precondition for energy development. . . We must push control technology to its limits in order to minimize environmental damage associated with energy development.

ENFORCEMENT

This committee can be assured that I will be dogged and persistent in insisting that economic and energy activities provide full recognition of public health and other environmental values. In short, I intend to enforce the law.

In closing, I would like to say that I am committed to being open with the public. Full public support and understanding is essential if we are to do our job. I will insist that the agency do its homework and secure the best available data and analyze it objectively in every action we take. I believe in tough, but fair enforcement of the law.

REGIONAL APPROACHES

It is absolute requirement that we amplify the resources of the Federal Government by effectively making partners of the States. . . Let me also say that I recognize, with respect to the EPA Regional Offices, that you cannot have 10 separate interpretations of national policy. There has to be an element, a thread of consistency that runs through what we do. This is particularly important when the law has been crafted in such a fashion that the direction is very clear. . . An uneven enforcement policy around the country is simply not tolerable. At the same time I caution that from my own experience in New England, I know that the water problems in Connecticut are quite different than the water problems in New Jersey. . .There has to be some flexibility in the system to allow regional approaches on a problem priority basis. . . We need to have some flexibility in the regional administrators offices so they can in fact adapt sensibly and simply not blindly carry out a Washington prescription.

INDEPENDENCE OF EPA

I was the principal staff advocate (on the Ashe Commission) for an independent environmental protection agency when that issue was first brought up in 1970. I've not changed my views on that matter. I think the issue is likely to come up again, in the next four years. I wouldn't be here before you today, however, if I had not received catagorical assurance that the issue (of reorganization) had not been prejudged. I've seen nothing personally in the first six years of EPA's history to change my assessment of how that analysis ought to come out.

HEALTH

Seventy to ninty percent of cancer is now linked to environmental causes. What concerns me are the sort of quiet silent epidemics that are the result of involuntary exposure to chemicals, the properties and effects of which we know very little about. . . EPA is not as strong as we need to be in health studies and research areas and I want to work on this with you.

EMISSION OFFSET

The Policy we adopted (in Connecticut on emission offset) was that we had to see a plant in place and an assurance in fact that we could get from here to there in terms of meeting health standards. Now that did not necessarily mean that you could introduce no new industries to that area, but it meant that you had to show an equivalent reduction or a pathway that would assure reductions that were necessary over the statutory periods to get you down to the health standard. . . What it does suggest . . . is that we're going to have to get a little smarter in how we manage growth. We're going to have to involve local communities as well as states in a much more imaginative way in realizing that they have a volume of air over that state that is very much affected by how and where they place industry and what kinds of industry and what mix. There is no escaping the fact that we're going to have to plan a lot better.

SIMPLIFIED REGULATIONS

The President has already asked me to initiate a review of all of our regulations and to take a very determined whack at simplifying them and making them more comprehensible to people. . . . I've been already exploring ways with several people in EPA that we can get a little bit more sensitive about what our regulations do at the point of impact. One of the proposals we are considering is assigning staff to the States as ombundsmen whose sole job is to go around and take a fresh citizens view of just what is happening and what is the impact of what EPA is doing.

It is perfectly possible for an employee from Washington acting within his area to do something very rational. The next guy down the line does the same thing. So you have a series of rational decisions on the part of well-motivated, competent professional people. In and of themselves each piece is rational, though when you put the whole string together you may wind up with an irrational result. . . . So, we will be undertaking a thorough review of all our regulations and having been at the state level, having been at the other end of that long Federal pipeline, I am quite sympathetic.

ENVIRONMENT AND DISCRIMINATION

Federal air and water pollution standards are really drawing us through the eye of needle of land use planning, and I think there are great dangers there . . . which will be used as an excuse for zoning, for racial zoning . . . we cannot allow the environmental issue to become a code word or a password for class differentiation.

CONSTRUCTION GRANTS

I'm not sure we're providing adequate oversight on the expenditure of those funds. I remember in our own case in Connecticut that there were often small towns with limited staff who were simply not in a position to resist architect and engineering firms coming in selling platinum plumbing. In our case the state took a very aggressive role in providing technical assistance to those towns in managing the development and execution of those projects. I think that's going to be an absolute requirement. I would support for example, something along the lines of what becomes known as the Cleveland-Wright Amendment which would allow a small portion of those considerable grant funds to be used by the states to help provide oversight and technical assistance to communities building these facilities.

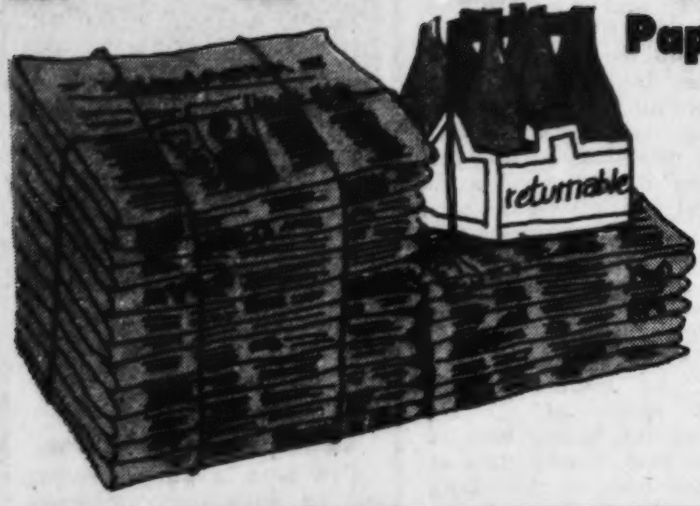
Barbara Blum

Deputy director asks employees for solutions

I've been a businesswoman, and an advisor to businesses. I'm familiar with the impact a government regulations can have on getting business done, even when the regulation is perfectly reasonable. I've been in the position of having to meet a payroll, so I'm familiar with the fact that good intentions must always be weighed against immediate reality. I know what paperwork means. I simply want to emphasize that as deputy administrator I will bring to the job an awareness of the influence of our decisions on the small businessman and on the private citizen.

. . . Now we must deal with problems where solutions are even more difficult than the ones that we've faced: How do we deal with agricultural runoff into our waterways? How do we deal with urban runoff? What do we do with our sludge? In cleaning up our air how do we deal with the problem of dust particles, where problems are hard to identify and harder to control?

Nevertheless, we must still identify such problems, we must set criteria, we must propose and monitor solutions and we must recognize that even if these problems are less obvious, their danger to the health of our environment and to our own health is no less great. Environmental Issues are not transient problems to be solved and forgotten. Rather they represent a permanent and ongoing commitment.



Paper recycling to start

The success of its own recycling program for high-grade waste paper has led EPA to coordinate a similar program for the entire Federal government.

To be patterned after EPA's "Use It Again Sam" program which reduced waste by more than 40 percent and earned more than $8,000, the combined government program is expected to add up to a $7,000,000 savings when fully implemented.

Alexander meets with coal officials

George R. Alexander, Region V administrator, met with United Mine Worker officials and the State of Ohio in an effort to convince the State that federal clean air regulations can result in the burning of more Ohio coal, not less.

Meeting with the Governor, labor representatives and state environmental officials, Alexander stressed the necessity for the regulations which will effect Ohio industry, particularly the power companies, but need not cut use of Ohio coal. Adoption of the Federal regulations would mean that if the eight power plants in question go to scrubbers to control S02 emissions, Ohio coal usage will actually increase.

Federal sulfur cleanup regulations do not apply to 33 counties in Ohio, and 10 of the 26 investor-owned power plants in the State need no modification to meet Federal standards. Action needed for modification include: four could switch to lower sulfur coal; five can blend Ohio coal with out-of-state coal; and eight must install scrubbers (two of these 8 are scheduled for shutdown due to age).

EPA okays coal fired plants

EPA has given preliminary approval for construction of three coal-fired, steam-electric generating facilities within Region V.

Northern States Power Company at Becker, Minn. received approval to expand its Sherburne County Generating Plant. The two proposed 800-megawatt facilities which are scheduled to begin commercial production in 1980 and 1982, will increase the county's net generating capacity to 2960 megawatts.

A 321-megawatt generating addition to Wisconsin Public Service Corporation's Weston Generating Station near Rothschild, Wis. will increase its capacity to 469 megawatts.

EPA's air regulations, require emission levels at the older units of the Weston Station to be reduced before the new third unit begins commercial operation in 1980.

Reserve mining case not settled

continued from page 5

Despite the millions of dollars which had been spent in legal fees by Reserve, the state and the various interveneors, the discharge into Lake Superior was continuing. To the naked eye, at least, what had been called a landmark environmental controversy was no closer to resolution than it was in 1972.

But attorneys, apparently, are trained to be more patient. The state of Minnesota promptly appealed the district court decision to the state Supreme Court. The appeals is based on the contention that a judicial panel has no right to overturn months of testimony and scrupulous investigation by state agency experts.

The decision by the Minnesota Supreme Court, expected in June, will presumably end the Reserve case. State attorneys have already said they will probably not try to appeal that decision to the U.S. Supreme Court.

And so, the people who probably care most of all, the people of Silver Bay, have a few more months to wait.

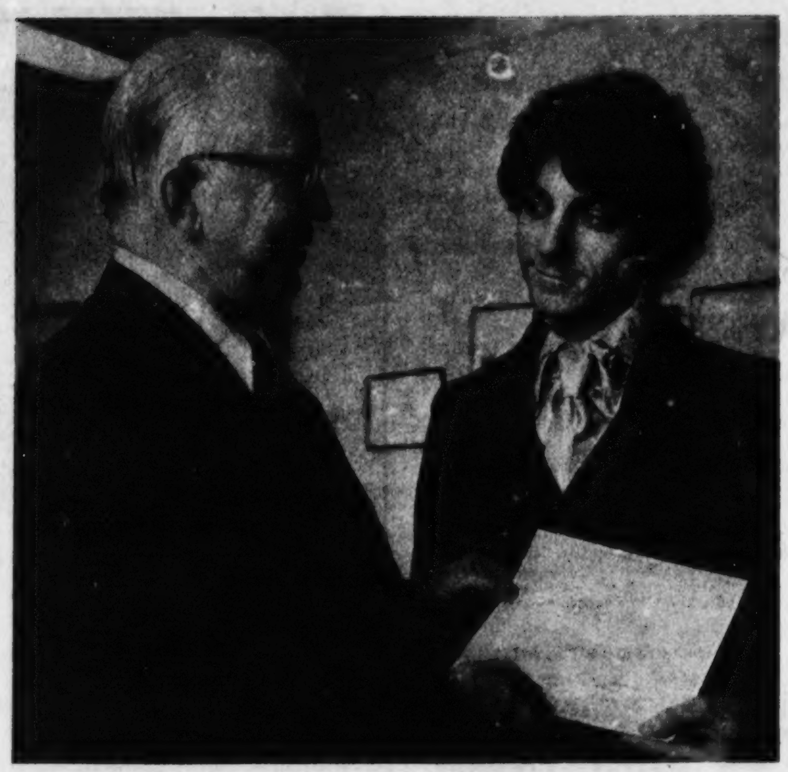
Michigan potato farmer certified

Thomas D. LaPointe of Monroe County is the first Michigan farmer to become certified under the new state pesticide control law. According to the Michigan Department of Agriculture, certification of about 20,000 Michigan farmers is expected by the October 21 deadline for certification of private farm applicators.

LaPointe is a 22-year-old potato grower on a family-operated farm who says he agrees with the state regulatory program requiring private applicators to be certified.

LaPointe said he really didn't study for the written examination. "Most of the information requested was common sense that my father had already taught me about the safe, proper use of chemicals. The manual covered everything needed for our particular situation. It was simply written and easy to understand."

Michigan is one of the first states in Region V to have a state plan approved for implementation. The plan is called for in EPA's amended Federal Insecticide, Fungicide and Rodenticide Ace (FIFRA). Primarily to ensure safety to the applicator and to the environment, both private and commercial applicators must be certified through written test.



B. Dale Ball, director with the Michigan Department of Agriculture presented Thomas D. LaPointe of Dundee, Mich. with the first private (farm) pesticide applicators certification in Michigan in late January. Certification is required under the state's new pesticide control law.

noise

EPA proposes national jack hammer noise limit

According to Federal noise specialists the public may be about to get a break from the noise of jack hammers and rock drills. The noise affects more than 27 million Americans each year and poses possible severe hearing damage to construction workers.

EPA intends to set Federal standards which are expected to result in a 45 to 55 percent reduction in the extensiveness and severity of construction site noise to the public.

This action follows others the agency has taken to reduce noise from trucks, diesel and diesel-electric locomotives, portable air compressors and lawnmowers. Noise emission regulations for buses, motorcycles, truck-mounted garbage compactors and refrigeration units are in final stages of development.

Noise exhibit to open in Chicago

Noise, what is it? How does it effect us? What is being done about it?

These and other questions will be answered for visitors at the new noise exhibit opening March 30 at Chicago's Museum of Science and Industry.

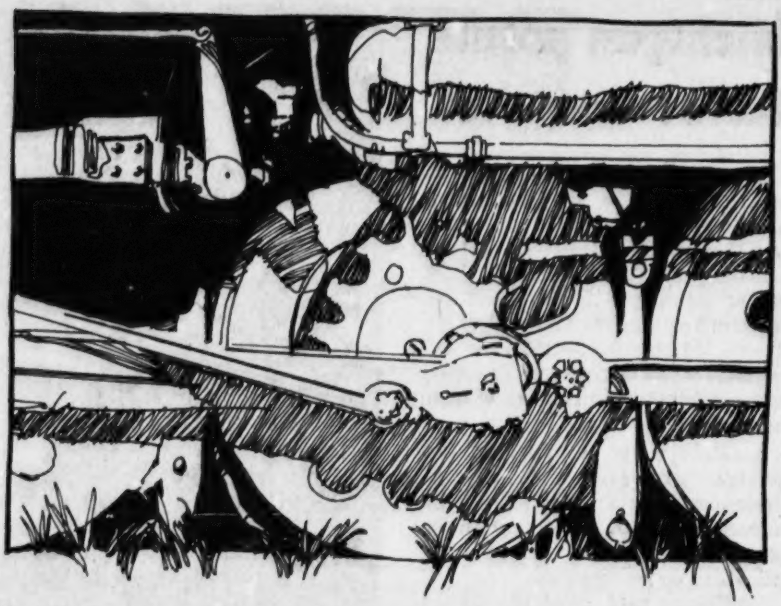
"Noise Pollution," a modular exhibit produced by the U.S. Environmental Protection Agency comes complete with the facts on noise, buttons galore for viewer participation, and even a do-it-yourself hearing test. If you're in Chicago, don't miss it.

South Shore abandonment opposed

In testimony before the Interstate Commerce Commission, Region V EPA struck a blow for continued use of the South Shore Railroad saying that abandonment of the railroad would jeopardize all plans to control air pollution in the Chicago metropolitan area.

EPA testified that the severe air pollution problems in Chicago due to automobile traffic would be increased if the South Shore were abandoned. In addition a halt in passenger service would violate existing regional transportation plans and could necessitate a revision in both the Indiana and Illinois implementation plans for air quality.

The Interstate Commerce Commission will make the decision. However, the South Shore holds the right to continue with its plan to abandon passenger service if the ICC decision is not made by April 7.



water

PCB ban ordered in all waterways

The Environmental Protection Agency has ordered a ban on the discharged into water of PCBs, industrial chemicals that have contaminated fish in some parts of the country. The ban is against the direct discharge of PCBs into water by plants using them. Not affected are indirect discharges, such as those from municipal sewage-treatment plants, which will be taken care of by separate regulations being developed by EPA.

SBA makes low interest loans

In an effort to help farmers control pollution caused by farm runoff the Environmental Protection Agency has teamed up with the Small Business Administration to provide low-interest loans. Now available at 6.625 percent, these loans may be obtained up to 30 years from the SBA with EPA certification that the antipollution measures are necessary and adequate to meet clean-water and public health requirements.

Charger dispute

Angry property owners outside the Indianapolis, Ind. have won a four-month delay in annexation to the city's sanitary district. Homeowners in Marion County petitioned against the Indianapolis Sanitary District's resolution to spread the cost of the city's share of $56 million for two major sanitation projects.

The two projects include an advance waste water treatment plant estimated to cost the city $18 million of a total bill of $242 million and $15.2 million interceptor sewer for Franklin, Warren and Lawrence townships.

The advance treatment plant is a U.S. EPA requirement to eliminate sewage from pouring into the White River. The annexation calls for all townships in Marion County to be included in the sanitation district except, Beech Grove, Lawrence, Speedway, Cumberland, Hill Valley and the Ben Davis conservancy district. Indianapolis mayor, William Hudnut, has asked the Department of Public Works for the additional time to study the proposal.

Severe winter depletes oxygen in shallow lakes

As the severe winter continues, lakes and rivers throughout the Midwest suffer serious fish kills due to the shortage of oxygen in the waters.

According to the Wisconsin Department of Natural Resources' fisheries bureau, fish require three to four parts per million of oxygen to live without discomfort. Oxygen levels in some lakes and rivers now are reported to measure two parts per million to zero, leaving little chance that fish will survive.

Officials say that deeply-frozen, snow-covered surfaces have kept light from plants that convert carbon dioxide to oxygen. In addition the splashing action of waves that adds oxygen to a body of water has been stopped because of the frozen lake surface.

PEOPLE

EPA former Administrator **Russell Train** has left the agency for private law practice and Deputy Administrator **John Quarles**, is now in private practice.

Other people are reporting to new posts within EPA: **Charles H. Sutfin**, new Director of the EPA Region V Water Division. Sutfin comes from EPA Headquarters where he has been Deputy Director of the Municipal Construction Division. He replaces **Henry Longest** who has joined EPA's headquarters staff. In the Midwest Region, Sutfin will be responsible for directing the Municipal wastewater treatment facility grant program as well as the water planning and drinking water programs..

Betty Klaric, who while not at EPA has been a loyal environmental presswoman for the **Cleveland Press.** Betty moved to Assistant Editor from her environmental beat, but assures us that her interest and concern for the environment will be ever present in her new job.

One-Stop-Shopping—that's the plan according to **Dick Lehman**, Chief of the Information and Education Division of the Michigan Department of Natural Resources. Lehman's talking about the DNR's new Public Information Services Center to open sometime this spring. Complete with numerous publications, it's to be a centralized information center for citizens who walk, call or write in for information on the DNR and its programs.

Speaking of disseminating information to the public, **Gail Gendler**, new Director of Public Information for the Minnesota Pollution Control Agency, says that's top priority. As Public Information Director she will try to make the MPCA more accessable to the media and the public throughout the state, particularly in those areas outside the Minneapolis metropolitan area. Gail replaces **Jim Dunlop** who left the agency last year.

The Great Lakes Research Advisory Board (International Joint Commission) will hear proposed legislation of **Senator Gaylord Nelson** (D-Wis.) first-hand. The Senator presented new legislation at an advisory board workshop at the end of February. The Senator wanted more money for environmental research and more attention to land runoff; and he would like to see Congress adopt a ban on phosphates in the Great Lakes.

This could be the start of something new and it will be if all goes well for **Don Werling**, Director of the Evanston, (Illinois) Environmental Association. Don is trying to organize a Grosse Pointe Voyager Brigade. The initial group, consisting of 30 young people, plan to study and explore Lake Michigan by canoe. To be modeled after a similar project in Green Bay, Wisconsin, the group would start at the south end of Lake Michigan and work North to Beaver Island. Werling and others have a vision of the excursion becoming a yearly event involving thousands of young people.

Robert S. McEwen, Assistant Chief of the Office of Public Water Supply, Ohio EPA has been named "Water Utility Man of the Year" by the Ohio Section of the American Water Works Association. McEwen received the George W. Fuller Memorial Award during the groups' 38th annual meeting in Toledo. The award cited McEwen for "outstanding contribution to the water supply industry, coupled with unflagging effort to improve utility/customer understanding."

Federal Register

DECEMBER 16

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Montana; correction
  - New Jersey
  - New York

Notices

- Pesticide programs, State registration to meet special local needs; interim certification, various States:
  - Montana
- Pesticides; specific exemptions and experimental use permits:
  - Weyerhaeuser Co

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- Air programs, energy-related authority:
  - Georgia
  - North Carolina

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- Environmental statements; availability of agency comments:
  - Aspen/Snowmass 201 facilities plan
  - Greeley Region Wastewater Management Program
  - Wastewater Treatment System, Henderson, N.C.
- Meetings:
  - State-Federal FIFRA Implementation Advisory Committee (SFFIAC); Working Group on Certification

DECEMBER 20

Rules

- Fuels and fuel additives; control of lead in gasoline; correction

DECEMBER 21

Rules

- Air pollution; standards of performance for new stationary sources:

Proposed Rules

- Air quality implementation plans: Preparation, adoption, and submittal; preconstruction requirements
  - Ohio; authority delegation
- Air quality implementation plans: Preparation, adoption, and submittal; interpretative ruling
- Air quality implementation plans; various States, etc.:
  - Massachusetts; comment period
  - North Carolina

Notices

- Air pollution; standards of performance for new stationary sources:
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  - Ohio; authority delegation
- Food additive petitions:
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- Meetings:
  - Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel
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- Containers; use and labeling for transportation and temporary storage of pesticides
- Pesticide applicator certification; State plans:
  - North Dakota
- Water pollution control;
  - Violating facilities; list
- Air quality implementation plans; various States, etc.:
  - Alabama
  - Virgin Islands
- Fuels and fuel additives; control of lead in gasoline; reporting requirements

JANUARY 3

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- Meetings:
  - Science Advisory Board Executive Committee, Subcommittee on Scientific Criteria for Environmental Lead

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- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - Sodium chlorate

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- Pesticide applicator certification; State plans:
  - Colorado
- Pesticide registration:
  - Applications (2 documents)
- Water pollution control; discharge of pollutants:
  - Minnesota and Wisconsin
- Water pollution control; pretreatment programs State and local guidelines

JANUARY 5

Rules

- Air pollution control, new motor vehicles and engines:
  - Motorcycles, emissions
  - Motorcycles, light duty vehicles and trucks; emissions
- Fuels and fuel additives:
  - Gasoline refiners; lead phase-down submittals

Proposed Rules

- Air pollution control, new motor vehicles and engines:
  - Light duty vehicles and trucks; emission control production warranty; extension of time

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- Air pollution control, new motor vehicles and engines:
  - California; waivers; hearing
- Marine sanitation device standard:
  - Minnesota
- Meetings:
  - Chlorofluorocarbons
  - Polychlorinated biphenyls (PCBs), rescheduled
- Pesticides; specific exemptions and experimental use permits:
  - California Food and Agriculture Department

JANUARY 6

Rules

- Air pollutants, hazardous; National emission standards:
  - Vermont; authority delegation
- Air pollution; standards of performance for new stationary sources:
  - Vermont, authority delegation
- Water pollution; effluent guidelines for certain point source categories:
- Pulp, paper and paperboard

Proposed Rules

- Air quality implementation plans:
  - Vapor recovery; gasoline stations, stage II; extension of time
- Air quality implementation plans; various States, etc.:
  - California

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- Air pollution; ambient air monitoring reference and equivalent methods
- Air pollution; standards of performance for new stationary sources:
  - Vermont; authority delegation
- Alpha-emitting hot particles; petition response
- Pesticide applicator certification; State plans:
  - South Carolina

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- Administrative practices and procedures:
- Public participation in agency proceedings; financial assistance
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  - Utah

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  - California
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  - Emission standards for light duty trucks
  - Wastewater treatment facilities, Norman, Oklahoma

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- Environmental statements, preparation:
  - New source NPDES permits
- Water pollution; effluent guidelines for certain point source categories:
  - Pesticides chemicals; inquiry, extension of time
- Water pollution control:
  - Ocean dumping; requirements and criteria

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- Noise abatement programs:
  - Interstate motor carriers; extension of time
- Radiation protection standards, environmental, for high-level radioactive waste; public workshops; inquiry
- Railroad emission standards; extension of time

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  - California; waiver of Federal preemption
- Committees; establishment, renewals, etc.:
  - Management Advisory Group to Municipal Construction Division
- Meetings:
  - State-Federal FIFRA Implementation Advisory Committee

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  - Identification of products as major sources of noise; power lawn mowers; report
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- Air pollution prevention and control:
  - Stationary sources, list of categories; addition to
- Pesticide chemicals; tolerances, exemptions, etc.; petitions:
  - Methyl 2-(4-2, 4-dichlorophenoxy) phenoxy] propanoate
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  - Rebutable presumption against registration of products containing certain substances; extension of comment period (2 documents)

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  - Ore mining and dressing, suspended
  - Sugar processing, suspended

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- Air pollution control; new motor vehicles:
  - California, waiver of federal preemption
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  - Calumet Tunnel System
  - Jacksonville, City of Jackson County, Oregon
  - Lignite-fired steam generators
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  - BASF Wyandotte Corp

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  - Nor-Am Agricultural Products, Inc
- Pesticide applicator certification: State plans:
  - Connecticut
  - West Virginia

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- Meetings:
  - Toxic Substances Control Act; Polychlorinated Biphenyls (PCBs); implementation
- Pesticide applicator certification; State plans;
  - Wyoming
- Pesticide registration:
- Pesticides; specific exemptions and experimental use permits:
  - California Department of Food and Agriculture
  - Florida Department of Agriculture
  - Washington State Department of Agriculture

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- Air quality implementation plans, preparation, adoption and submittal; interpretative ruling, hearings
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  - BASF Wyandotte Corp.; correction
- Water pollution; availability of environmental statements on wastewater management facilities:
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- Western Contra Costa County, Calif.

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Proposed Rules

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- Air pollution; standards of performance for new stationary sources:
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JANUARY 25

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- Environmental statements; availability, etc.

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- Pesticide applicator certification; State plans:
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  - Washington State Department of Agriculture; benomyl on cabbage, etc.
- Radiation protection in healing arts, Federal agency guidance; memorandum of understanding with HEW

ENVIRONMENT MIDWEST READERSHIP STUDY

The editors of Environment Midwest are looking to find ways of better serving you, the reader. If you have a moment, please answer the questions below and mail them back to us. Thank you.

1. **What environmental areas are most important to you?**
   air - water - noise- solid waste - drinking water - pesticides - toxic substances
2. **What governmental units are most important to you?**
   National - Regional - State - Multi-county, County, Municipality
3. **What subject areas concern you most?**
   management - monitoring - R&D - enforcement - policy - grants- others ____________
4. **Which, if any, of the following sections would you like to have more coverage of:**
   Briefs - Federal Register - upcoming activities - letters - trend stories - feature stories - people stories - other ____________
5. **Do you want a listing of enforcement actions?**
   yes______ no______
   Within a 50 mile radius of your house which stream do you consider to be the most seriously polluted?
   Stream Name ____________
   Closest City ____________
   Cause ____________
6. **Do you consider dirty air a problem in your area?**
   yes______ no______
   State ____________
   Closest Town ____________
7. **Any other additional comments? ____________**

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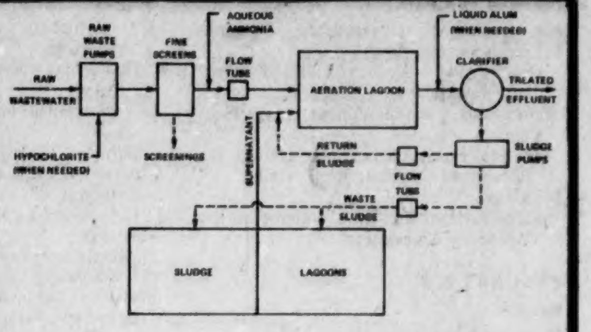
RAW WASTEWATER
RAW WASTE PUMPS
HYPOCHLORITE (WHEN NEEDED)
FINE SCREENS
SCREENINGS
AQUEOUS AMMONIA
FLOW TUBE
AERATION LAGOON
LIQUID ALUM (WHEN NEEDED)
CLARIFIER
TREATED EFFLUENT
SUPERNATANT
RETURN SLUDGE
FLOW TUBE
SLUDGE PUMPS
WASTE SLUDGE
SLUDGE
LAGOONS

Simplified process flow diagram

What are the new pre treatment guidelines

A pre treatment guidelines meeting for Region V of the U.S. Environmental Protection Agency has been scheduled for April 19 and 20. The public is invited to the April 19 meeting at the Pick Congress Hotel, 520 S. Michigan Avenue, Chicago, Ill. On April 20, state officials will meet in the regional EPA headquarters in room 1365, 230 S. Dearborn, Chicago, Ill. Call Susan Walker for more information. 312/ 353-2000

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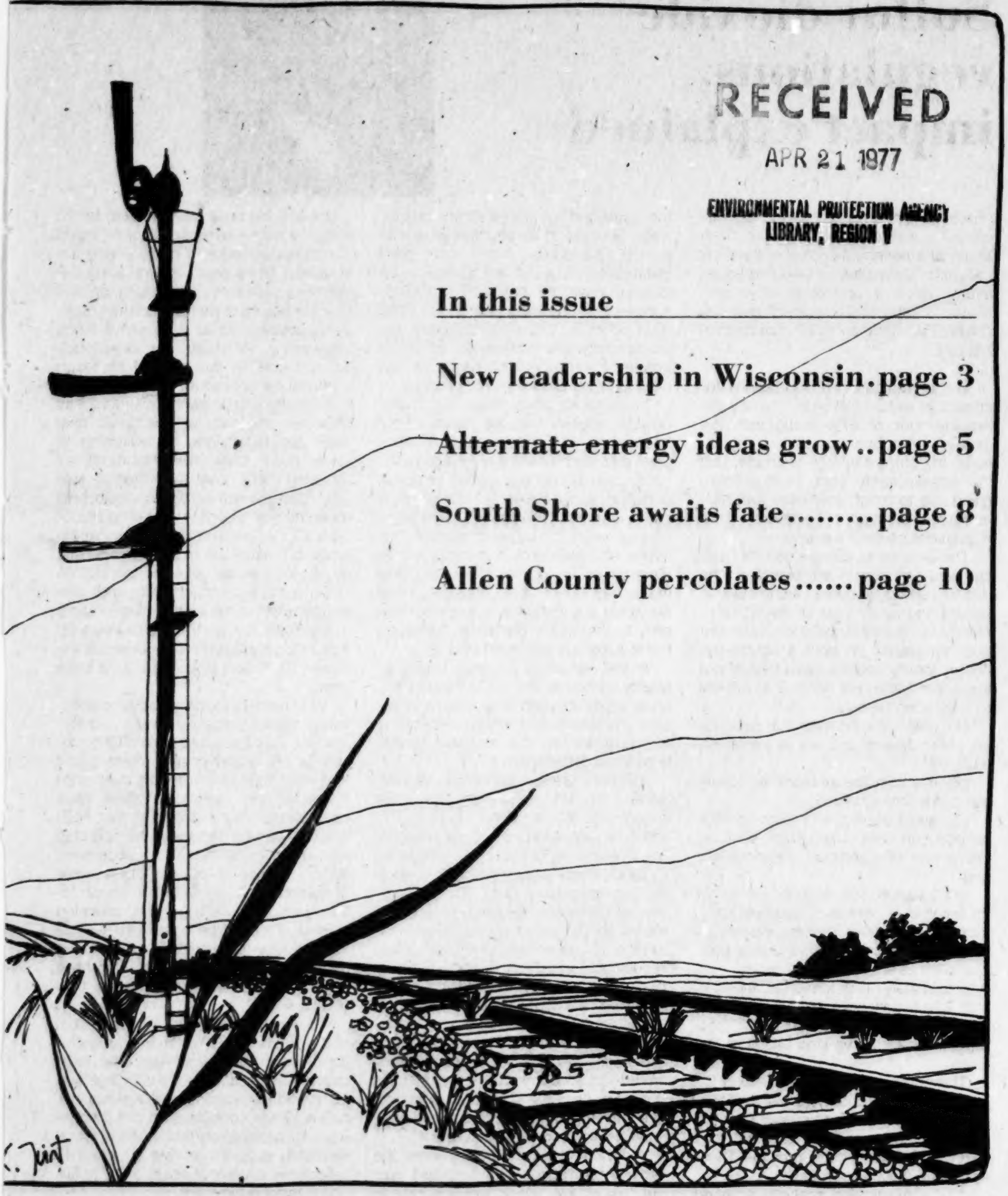
APRIL, 1977



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South Shore awaits fate.........page 8
Allen County percolates......page 10

George Alexander, jr.

Sulfur dioxide regulations, impact explained

(Editor's Note: This is a shortened version of a statement made by Mr. Alexander at a hearing March 2 of the Coal Utilization Committee of the Ohio Legislature. While it addresses Ohio problems, it represents regional and national EPA policy on sulfur dioxide problems.)

The promulgation of regulations for control of sulfur dioxide in Ohio by the Administrator of EPA along with the January Ohio hearings on the regulations, the current energy shortage, and the unseasonably cold weather have given rise to much confusion and misrepresentation about the effect of the regulations on Ohio's economy.

The Ohio sulfur dioxide control strategy and regulations are based on the use of refined analytical techniques to secure and apply state-of-the-art technology to control strategy development and regulations on both a county-by-county facility specific basis throughout the entire State. We needed to adhere to the following goals:

(1) attain the primary and secondary sulfur dioxide ambient air quality standards;

(2) maintain the ambient air quality standards through 1985;

(3) avoid conflict with other critical air pollution control programs such as prevention of significant deterioration; and

(4) balance our actions so as to minimize over control of sources, minimize overall sulfur dioxide increases, and other national programs and policies such as energy-related issues. Approximately 100 industrial facilities and 40 utilities have been specifically identified in an effort to "custom fit" the regulations to the varying needs of the State.

The emission limitations selected for all sources in a county, group of sources in a county, or individual sources in a county, were tailored to meet localized air problems caused by the different sulfur dioxide sources.

Our sophisticated analysis lessened the likelihood of unnecessary regulations. Sources in 33 counties where air quality standards have not been violated and are not anticipated to be violated have **no** emission limitations specified in the regulations. In other rural counties, emission limitations are placed only on a specified group of problem sources with **no** regulation applied to other facilities in the counties.

In addition, many major fuel combustion facilities that are isolated from interaction with other sources have been provided with emission control options, such as a single uniform emission limitation applicable to all stacks or a series of emission limitations that allow control variability between stacks. This approach represents a significant step towards assuring the attainment and maintenance of the NAAQS while providing a substantial amount of flexibility to the facility owners in achieving the required emission reductions.

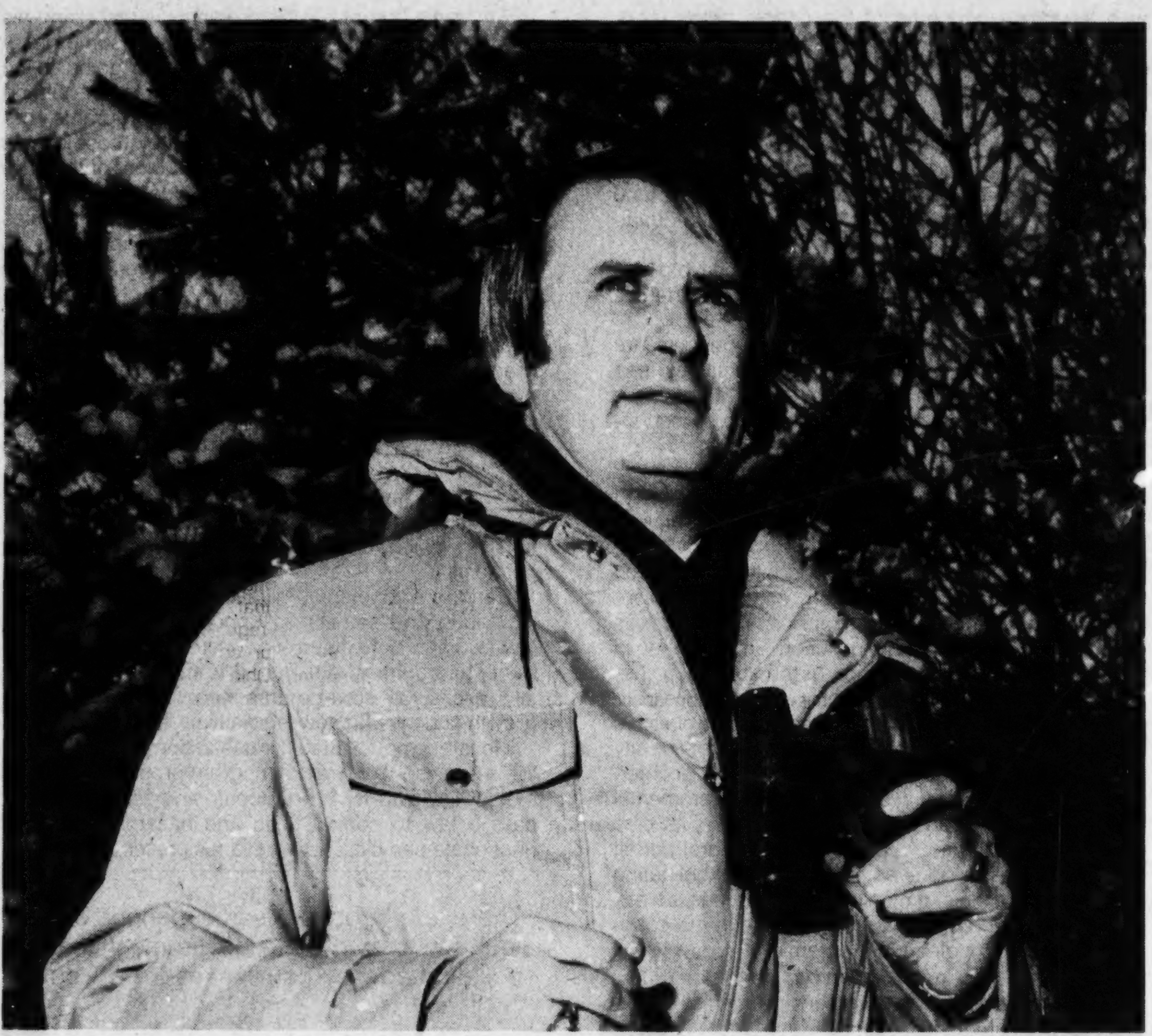
In the remaining counties where air quality standards are not being met, the analysis determined total source emission limitations and where necessary, individualized source emission limitations were determined.

EPA has prepared an extensive inflationary impact statement. The study found that the emission limitations of the final regulations are quite reasonable. The final regulations are anticipated to require only a 10.7 percent increase in capital expenditures for investor-owned utilities; a reduction of approximately $950 million in capital expenditures from the impact of the proposed regulations and $224 million in annual operating costs. In addition, EPA analyzed the availability of external financing, effects on consumer charges, and operation and maintenance expenses. In each area, the results confirmed the economic analysis conducted prior to the proposed regulation that implementation of the sulfur dioxide controls was economically feasible.

Much of the controversy over the Federal regulations has centered over the use of low sulfur western coal in place of Ohio coal, and the need for 25 major investor-owned utilities to install scrubbers in order to comply with the emission limitations. Ten of these 25 plants are presently in compliance and no changes must be made in their operating procedures as a result of these regulations. Although our regulations do not specify the method to reach compliance, only an emission limitation, the Inflationary Impact Statement has indicated that four utilities could best meet the regulations by switching to lower sulfur coal, meet standards by blending Ohio coal with out-of-state coal, and the remaining six could best meet the regulations by installing scrubbers. Our Agency strongly feels that the emission limitations for these major utility plants can be attained without an upset of the economy of Ohio and without an upset of the coal mining industry in the State. In fact, there could be a 20 million ton increase in Ohio coal use annually by 1985 using 1975 as a base year.

With respect to the scrubber controversy, we have found that many different Flue Gas Desulfurization (FGD) processes are operational at present and that while their reliability has been controversial, the earlier problems have been sufficiently solved so that FGD systems can be designed and operated with good reliability. As of December, 1976, a total of 30 scrubbers were operational, 31 were under construction, and 63 were in the planning stages. It should be noted that four of the five new fossil fuel-fired generating units planned in the State of Ohio have elected to use Ohio coal and wet lime scrubbers.

To stimulate the use of Ohio coal and scrubbers, rather than low sulfur coal, for those few utilities that must make substantial reductions in their sulfur dioxide emissions, the Agency encourages the consideration of a mechanism for allowing certain facilities to immediately adjust their rate structure to reflect the additional costs of air pollution control equipment.



Anthony Earl takes charge

By Frank Corrado

In the 15 months that Anthony Earl has been running the Wisconsin Department of Natural Resources as its Secretary, he has hung tough between the hammer and the hard place of State government and gotten better than passing marks as Wisconsin's top environmental official.

Appointed in December, 1975, in the wake of newspaper charges of mismanagement at the State DNR, Earl, an outspoken critic of the Department as a State legislator has moved inside and begun to turn the DNR into an efficient and well-managed pollution control agency that's won begrudging respect from both environmentalists and industry.

"I've tried to get the department out of a defensive posture," says Earl, "by making it more visible, by making people in the department more accessible, by getting more decision-making at the district and area level, rather than insisting that all decisions be made here in Madison and by generally getting a lot more public participation."

Has Earl's approach worked? "There has been much progress," says enviromnental lobbyist Peter Anderson of the Wisconsin Environmental Decade. "The DNR has more public participation than before."

And, says Madison environmental attorney James Derouin, who represents the Wisconsin Paper Council, "Earl's fair-minded, able, articulate, and very much dedicated to structuring solutions to problems, not just intellectualizing them. He's done a remarkable job of balancing interests of the environmentalists with legitimate concerns of the people being regulated."

There are probably some people with tougher jobs in State government than pollution agency administrators. But not many.

On the one hand, they are charged with administering hundred million dollar plus Federal construction grants programs, enforcing national clean air and clean water laws and monitoring environmental quality.

On the other hand, state adminstrators have got to worry about State priorities like energy shortages, jobs, and economic development.

Being located in state capitals, their budgets are closely watched by tough legislative committees, and their performance on a day-to-day basis is under the constant scrutiny of environmental and business interests.

And in three States in Region V — Wisconsin, Indiana and Michigan — natural resource or health programs are lumped together with environmental responsibilities.

The conflicts between competing interests in each State have resulted in an uneven record of environmental performance. A strong phosphate ban was passed in Indiana, though pollution enforcement in the Northwest industrial section of the State lags. The State runs a strong drinking water program while construction grants to cities are slow. Michigan voters passed a ban-the-can referendum last fall, yet the city of Detroit still remains the biggest Lake Erie polluter. Illinois has a unique, well-organized governmental structure for pollution control, but maintains its own water permit program, duplicating the Federal permit program. Ohio has done an excellent job of obligating construction monies to municipalities, but has a weak enforcement record and is the only state in the country without a sulfur cleanup program.

Earl's approach in Wisconsin has been two-fold — to make decisions on pressing environmental issues, while at the same time responding to long-smouldering criticisms of the agency's way of doing business.

Too much paperwork, long-standing "temporary" appointments, over-centralization and no long-range planning were among the chief criticisms.

The DNR reported at the end of Earl's first year that 27 upper-level jobs had been filled with permanent appointments, "paper pollution" was reduced and five copying machines removed, personnel and power were transferred out to district offices and employees encouraged to help develop budget proposals.

And, according to the *Milwaukee Sentinel,* which led the fight to overhaul the DNR, an informal survey of DNR field troops indicates they believe the department is doing a better job.

Earl describes himself as having "a strong environmental orientation" and says he has tried to make sure environmental considerations pervade departmental activities such as forestry and outdoor recreation.

Earl feels one of his big problems is stabilizing his environmental budget. "We know within some pretty rough estimates what kind of money is going to be available for us in our forestry program, in our hunting and fishing programs, in our parks programs, because we know the funds generated by those events come back to us." But he goes on, "Most of the support we get on the environmental side is either State general purpose revenue from the income tax or sales tax and Federal dollars, and those are not nearly as predictable or as stable sources of revenue as from the conservation side."

Earl feels this hurts long-range planning on the enviromental side. He looks to a stable source of environmental revenue in the future, "so we can do an even better job of planning for sewage treatment plants, sanitary landfill assistance, and perhaps in cost sharing as we begin to get more deeply involved in nonpoint pollution abatement and so on."

Earl also says the DNR is trying to develop an enforcement strategy, "rather than always being the defensive waiting for something to go wrong and reacting to it."

Earl's environmental initiatives have included taking tough and sometimes unpopular stands against power plants scheduled for construction in Dane and Kenosha counties, attempting to cut down on possibly excessive sewage treatment facilities, control growth and take on new legislative initiatives.

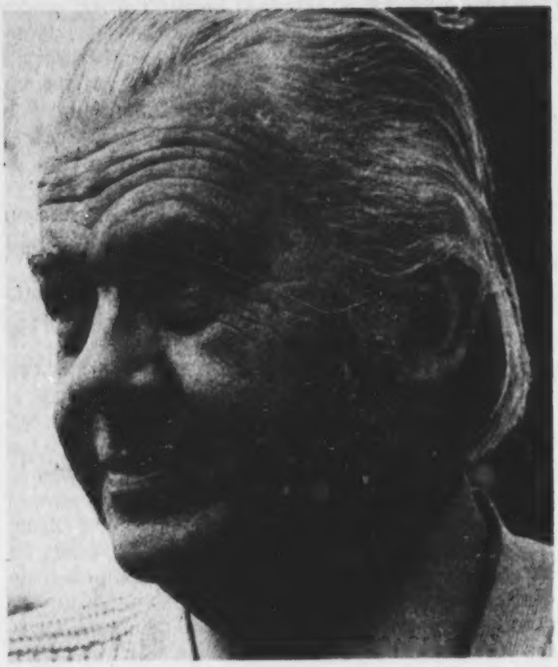
He is hoping for State House action that will establish a state sewage treatment grant program, increase the agency's ability to help locate and design landfills, pass a law to control toxic and hazardous wastes, phosphate ban bill, and a wetlands preservation bill.

> There are probably some people with tougher jobs in state government than pollution agency administration . . . but not many.

And what about the future? "There's a tradition of support and affection for the out-of-doors in this state. And there's strong support for programs aimed at enhancing the out-of-doors and cleaning it up," he says. "There is the resistance that comes from those whose activities are being regulated, of course, but in the main the public has been pretty supportive so we build on that base. Cleaning up the environment is not just a whim here, but a long-standing commitment on the part of the people in this state."

Earl thinks that the environmental protection and conservation sides of the department should stay together, not spilt up. There's always some talk about it, he admits, but calls the programs "complementary" in nature. "We can be more effective in protecting the environment if we continue to do a better job by getting sportsman, hunters and fishermen involved in cleaning up the environment. It is of direct benefit to them as well as a benefit to all."

Economist asks industry for environmentally sensitive plans



E.F. Schumacher

Bellied up to the bar, he wouldn't at all seem out of place in a Midwest milltown, talking and drinking with the boys.

And it wouldn't at all be characteristic of economist E.F. Schumacher who is the new hero of the environmental movement, and maybe someday the workplace.

Schumacher, who at age sixty wrote his first book, titled *Small is Beautiful*, has in the four years since it was published seen his writings spread like wildfire in the industrial and third world. From initial sales of 27,000 copies the first year, *Small is Beautiful*, is now selling in paperback in the U.S. at the rate of that many copies a month and is being translated into many languages.

Schumacher's principal is simple: you've got to build technology that's smaller and allows greater human participation in working it. If you do, he says, all kinds of good things will happen: people will enjoy their work, the third world will be able to industrialize, energy costs will go down and our whole economic system will work better.

The catchwords for his ideas are "appropriate" or "intermediate" technology and are mainly aimed at the Third World, where lots of labor is available, but capital is scarce. It is there that new technology must be established that gives people a chance to work and lead productive lives. Having seen the failures of large centralized mass production centers, with high transport costs, fail constantly in the Third World, Schumacher says that the industrialized West must bring its tremendous know-how to bear in creating technologies that will work in small villages where there's little money but lots of manpower.

Schumacher in late March finished a two-month tour of the U.S. that included stops in the Midwestern cities of Minneapolis, Chicago and Richmond, Indiana. Also among his stops was the new National Center for Appropriate Technology in Helena, Montana, funded with $3 million by Community Services Administration (formerly OEO) which wants to see the ideas of intermediate technology applied to help poor people in the U.S. Strongly backed by former Senate majority leader Mike Mansfield and current Montana Governor, Mike Fitzgerald, the appropriate technology movement also has support from California Governor Jerry Brown, who has set up a state office on appropriate technology.

Schumacher's purpose in this trip was, among other things, to attempt to build popular support for increased U.S. emphasis on this approach in foreign aid programs.

At the conference in Minneapolis, about 500 persons turned out to hear Schumacher. Sponsored by the Future Studies Department of the Minnesota Science Museum, the event attracted a number of exhibits on solar and wind energy production, improved community design, and inner-city projects that emphasize insulating, gardening and other self-help activities.

Schumacher's great appeal seems to lie in his ability to put economic principles in simple declarative sentences, his concern that technology be compatible with people and nature, and his unabashed belief that strong moral values must underlie any economic system

His talks and writings have additional appeal with Schumacher's background which includes a 20-year stint as economic advisor to the National Coal Board of England. He is organizer of the Intermediate Technology Development Group in England which works with Third World countries to come up with new technologies and serves on the board of a worker-owned company in England. He is called an advocate of Buddhist economics, which talks of enrichment of village life through use of labor-intensive local manufacturing and handicrafting with strong decentralization in economic decision-making.

One of Schumacher's chief concerns is to develop ways to reduce domestic, agricultural and transport energy requirements.

"We must learn not how we can do with better and faster transport," he told the Minneapolis audience, "but how we can do with less."

Schumacher described how, in driving from London to Glasgow, he noticed a number of trucks carrying cookies to Glasgow. And when he looked at the other side of the road, he discovered an equally large number of trucks carrying cookies from Glasgow to London. "This is no noticeable difference between London and Glasgow cookies, but arises out of the scale of production." Pointing to increasing costs for gasoline, Schumacher warned that, "Whether we like it or not, doesn't matter, but it will be necessary to come to a pattern where production and consumption are much closer together.

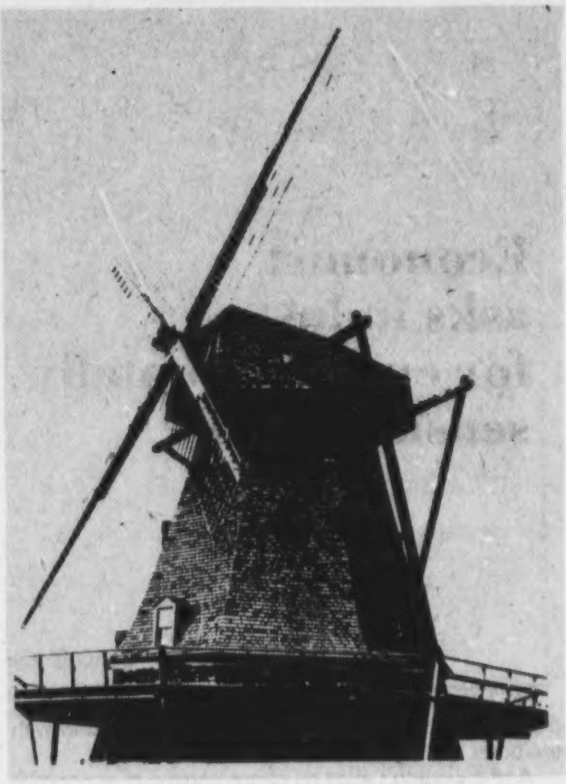
"We have learned how to make things on a big scale," he went on. "Can we now learn to apply our superlative technological and scientific knowledge and learn how to sufficiently make things on a small scale? The economy of scale arguments are a myth." If intelligence deserts a sector of the economy it will fall, says Schumacher. He cited bread-baking as an example. Consumers would rather have fresh bread, but can't get it. He blames not consumer preference but what he calls "stunt technology" which ignores the need of ordinary people.

Schumacher's greatest strength may be that he sees economics in moral terms. He talks of "technology with a human face," "economics as if people mattered," social disease of "greed and envy".

Call a thing immoral or ugly, soul-destroying or a degradation of man, a peril to the peace of the world or to the well being of future generations; as long as you have not shown it to be "uneconomic," he writes, "you have not really questioned its right to exist, grow, and prosper."

"It is . . . obvious," he writes in *Small is Beautiful*, "that men organized in small units will take better care of their bit of land or other natural resources than anonymous companies or megalomaniac governments which pretend to themselves that the whole universe is legitimate quarry."

Schumacher's appeal, during his recent trip through the U.S. was with the white middle class people of the environmental movement (the young, the bearded, the avant) who it appears, don't need the message as much as the poor, the minorities, business and labor.



Acorn grows . . .

In the academic world, Illinois' Governor State University at Park Forest South, Ill. has taken the lead in becoming the midwest university headquarters for energy alternatives.

Professor of Anthropology Elizabeth A. Hagens in the College of Environmental and Applied Sciences and Jim Laukes, T.V. production manager in the university's television department, has helped sponsor the publication of "Acorn," a newspaper dedicated to publicizing energy alternatives. "Acorn" is part of a larger effort to start up a network of people to exchange energy alternative ideas.

The newspaper was published five times in 1976 and is part of Hagens and Laukes attempt to make Governor State one of the centers of energy alternatives information in the midwest.

Acorn is anchored in individuals and groups with an interest in architecture, engineering, coal technologies, community government and development, humanistic impact assessment, social science, technology transfer planning, agriculture and organic gardening, conservation, cooperatives, and environmental education.

In addition to publishing "Acorn," the Midwest Energy Alternatives Network (MEAN) sponsored an appropriate technology for people conference, "Live from the Midwest," at Illinois. Circle Campus, March 18, 19, 20.

Economist E.F. Schumacher was one of the main speakers for the two day conference that focused on the inter-related policy issues of energy efficiency, dignity of work and community vitality.

The conference ideas were aimed at large and small scale energy related industries, academic humanists, social scientists; and religious, labor, public interest, environmental, civic and governmental community groups.

Center for Local SELF-RELIANCE

Helpful information, workshops & advice!

● HOME INSULATION and WEATHERIZATION

CLSR's initial program is home insulation and fuel use monitoring after insulation is installed. We plan to provide low income homeowners with attic insulation and winterization materials, along with technical assistence and the chance to work with their neighbors to install these materials themselves.

To qualify a homeowner must: A). Have an adjusted gross income of $12,000 or less. B). Help organize a local block club around the installation of insulation materials. C). Participate in a CLSR instructional workshop. D). Agree to do fuel use monitoring in their own home.

● GARDENING

Urban gardens may be one solution to the rising costs of produce.

In the Spring and summer months CLSR will be helping to organize neighborhood gardens and gardening workshops. There will be canning workshops in the late summer and fall. All of these projects will be done in association with local block clubs.

● ALTERNATIVE ENERGY DEMONSTRATION PROJECTS

Throughout the year CLSR will be designing and installing energy conservation / alternative energy demonstration projects to be used as models and experiments in the Powderhorn Community.

These projects will include solar collectors, solar greenhouses, waterless and water conservation waste disposal systems, heat reclaiming devices and energy/water conservation projects.

● WORKSHOPS

CLSR will offer periodic workshops related to our current projects to any group or organization in the Powderhorn Community. We may also be able to provide special workshops and demonstrations on other energy/water related topics.

● TECHNICAL ASSISTANCE

To those groups and individuals actively interested in home energy redesign, alternative sources of energy, and energy/water conservation CLSR can provide backround information and technical expertise in these and other related areas.

Resource conservation becomes a reality

In a high technology society like ours you might think it's hard to find a quick example of how intermediate technology might work in a big city.

The Center for Local Self-Reliance in south Minneapolis is trying to provide that example.

In little over a year the group, a private, non-profit community organization has, with $25,000 in money from the Minneapolis Housing Authority, started working with people in eight inner-city neighborhoods to increase their self-sufficiency and conserve resources with insulation projects, solar collectors, and this summer, gardening and composting.

"We were just a group of concerned citizens, meeting on an informal basis," says Barbara Weinschenkler, a member of the Center. "We were concerned that the city had no energy conservation program as late as 1975."

With money from the housing authority, the group was to demonstrate insulation techniques in 50 south Minneapolis homes. "By helping the people do the work themselves, rather than by contract," says Weinschenkler," we'll get 130-150 homes insulated."

In this program, homeowners, organized into block groups receive up to $500 to insulate their homes. They attend a how-to-do-it workshop. Meters are read before and after insulation to show savings.

Other projects that the Center is working on include demonstration projects in water conservation. Low flow in the Mississippi last summer has brought home the importance of conserving water, many feel in the Twin Cities. Installation of devices called "water dams" which save 2-3 gallons in flushing bowls, a high-water use, are being tried. And says Weinschenkler, residents are being shown how to garden with mulch, and that saves water.

The group emphasizes hands-on work with south Minneapolis residents along with education through visits, publications and video-taped demonstrations.

"This program is directed at low and moderate income people, who live in the city," says Weinschenkler, "but the problem in the inner city is that most people pay rent, they don't own their own homes and most of these programs are aimed at homeowners." To remedy this, she goes on, the Center is trying to work with the Minneapolis tenants union to sensitize landlords and teach tenants about low cost things they can do.

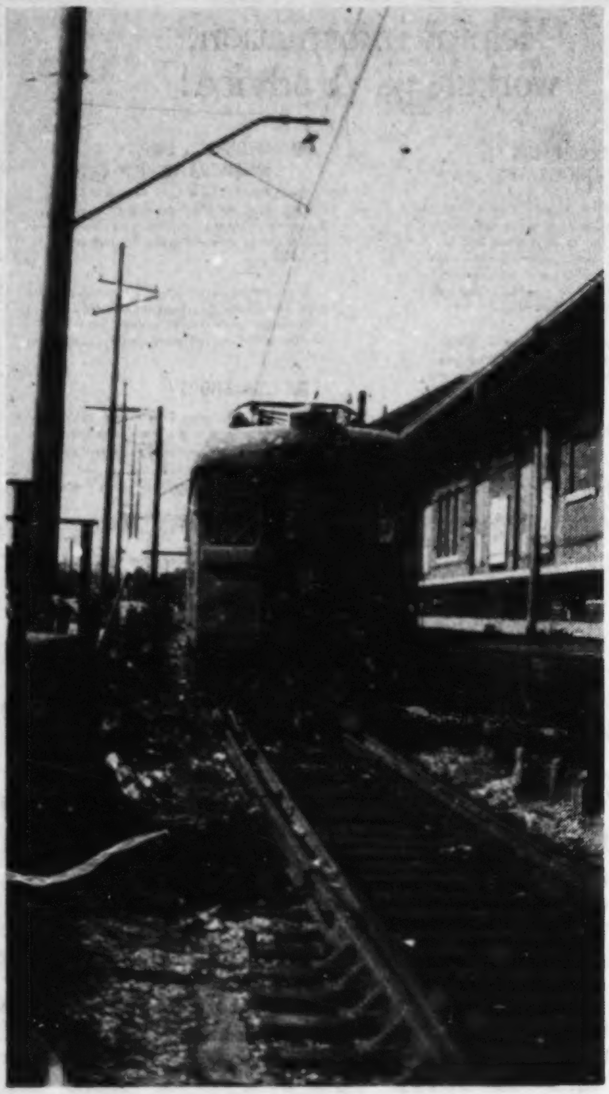
Is the program working? "During the severe winter — even by Minnesota standards — that we were just through, the phone never stopped ringing," says Weinschenkler. "Next winter we'll be able to measure progress by how long the snow stays on the roofs in south Minneapolis. And solar collectors will be sprouting up all over."

Weinschenkler feels that many inner city people are interested in solar projects, in insulating, in saving money on their utility bills but feel they have no place to turn for help. "People don't have money to buy solar collectors and are not in touch with options available."

"We're taking this information into the community and giving people a chance to experiment with it."

4- 7

South Shore awaits fate



Who will rescue the South Shore?

The Chicago South Shore and South Bend is a 90 mile electrified line running from the Chicago Randolph Street Station east to South Bend, Ind. It needs $35 million dollars, says South Shore president Albert W. Dudley, for modernization to keep operating.

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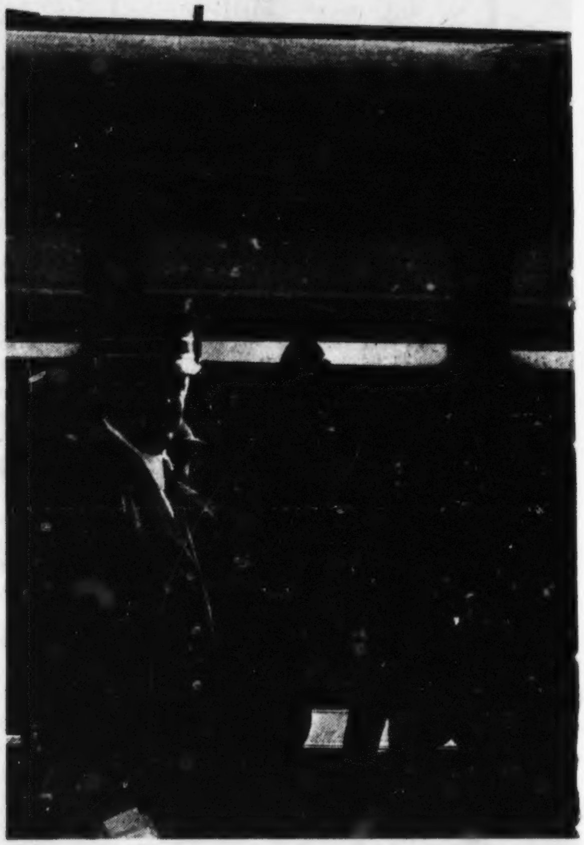
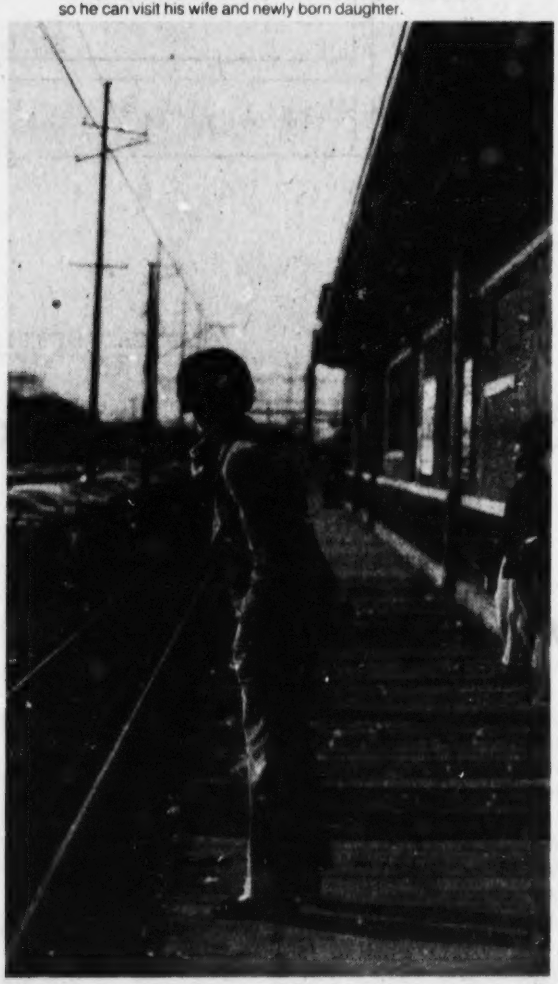


Pete Oliver is a retired watchmaker from Hammond, Ind. He has been riding the train for 40 years and doesn't want to stop . . .

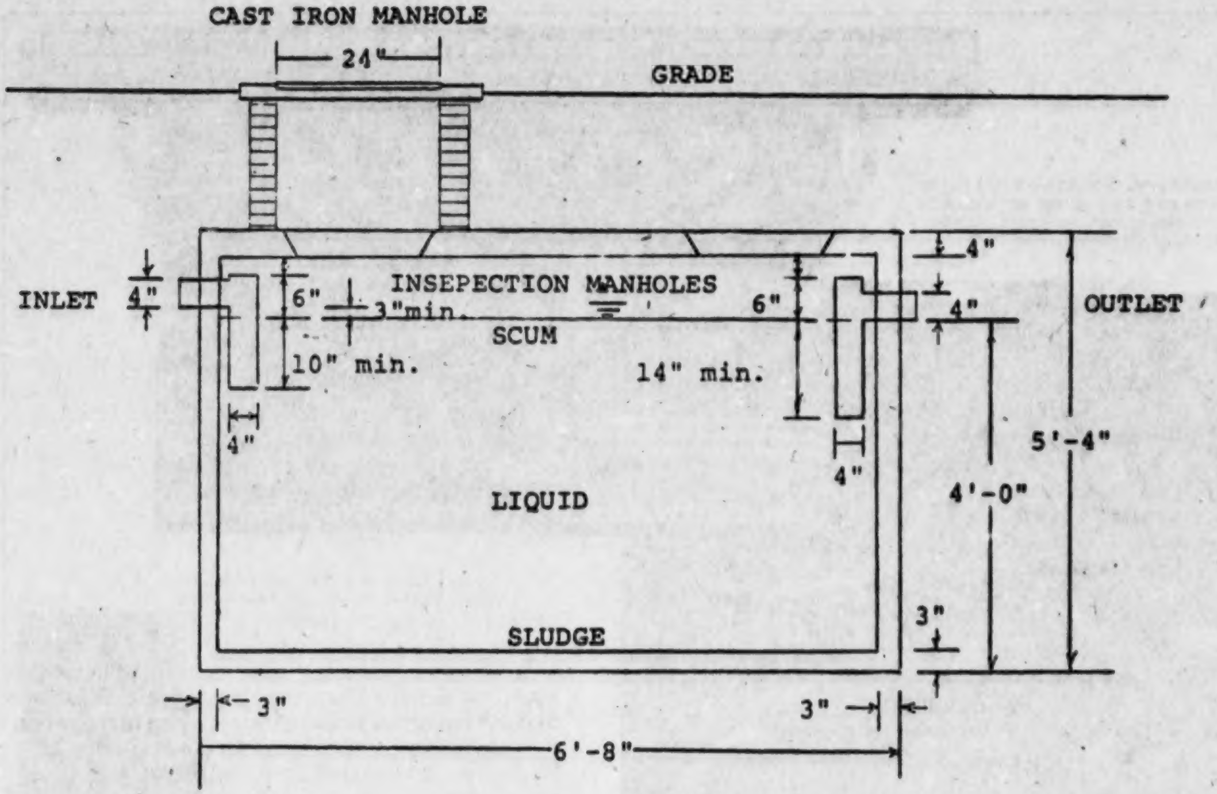
Protection Agency has opposed abandonment er line because it would mean an increase in by cross state workers. An increase in autos blems in the greater Chicago area.

SOUTH
SHORE
LINE

Tyrone Campbell of Gary, Ind. is waiting for the train, so he can visit his wife and newly born daughter.



SAVE THE
SOUTH SHORE LINE



TYPICAL SEPTIC TANK

Septic debate continues

By William G. Omohundro

Environmentalists and some county health officials in Allen County, Indiana, are in a heavy debate with other local officials over a water pollution problem which they believe threatens the health of people far beyond Indiana.

The controversy has become especially heated since the 1975 encephalitis epidemic when 27 Allen County residents reportedly contracted the disease from mosquitoes which bred in stagnant waters polluted by effluent from poorly functioning septic tanks.

Allen County Health Commissioner, Dr. Jane Irmscher, said the problem began back in the early 1950's when there was a boom in housing developments with unregulated installation of septic tanks for human waste disposal.

"There were no regulations, nobody had to get a permit, and there were no inspections," she said. "Some of the septic tanks didn't even have filter beds."

The wastes went directly from the septic tanks into nearby ditches because the soil in Allen County has a high clay content and does not percolate well, she explained. An ordinance regulating septic tanks was passed in 1953, but there was a great laxity in the enforcement of the standing ordinance until about three years ago, according to Dr. Irmscher. She said that during that period the County Board of Health "just kind of let anything go in that wanted to go in. They didn't say no to anybody.

"Then," she added, "all of a sudden the environmentalists and health officials got together. We had ditches and streams that were full of human waste materials."

She said they felt something had to be done about the situation. "The Board of Health was very conscientious and active and was considered a radical group here in Allen County."

The County Health Commissioner said the Board wrote and rewrote an ordinance through about 15 drafts for submission to the Allen County Board of Commissioners which is the legislative and administrative body for the county.

"In essence," she said, "it keeps the effluent on the lot. If the soil does not percolate, if soil survey maps show that the soil is not proper for an absorption field, then there can be no filter bed and off-lot discharge."

Dr. Irmscher said the ordinance proposed by the Board of Health was opposed by realtors and the Allen County Board of Commissioner because it would prevent people from building out in the county where sewers are not available for hookup or where the soil will not percolate.

"That was all right with us because we felt that the realtors and developers could develop land that is close to existing sewers which would save the agricultural land on the edges of the county for agricultural purposes."

> . . . "We have to reduce the source of pollution if we want to control encephalitis . . . "

She pointed out that in 1975 Allen County had an epidemic of St. Louis encephalitis that was thought to be directly connected to the condition of streams and ditches and malfunctioning private sewage systems.

"The *Culex pipiens*, which is the mosquito which carries St. Louis encephalitis, breeds best in polluted waters," she noted. "We felt that was the prime reason for our encephalitis outbreaks." (Officials at the U.S. Public Health Service's Center for Disease Control at Ft. Collins, Colorado, said it is an established fact that the *Culex pipiens* mosquito breeding in polluted waters is the major vector for St. Louis encephalitis.)

She said the county hired an outdoor spraying company to control the mosquitoes in 1976 and the county had one case of St. Louis encephalitis. "Although we now have an ongoing mosquito vector control program," she added, "we have to reduce the source of pollution if we want to control encephalitis. The two go hand in hand and certainly pollution is a public health hazard not only for encephalitis but for all the dysenteries — salmonella and shigella — and for hepatitis." She said there had been no particularly noticeable increases in hepatitis or dysentery.

Jane Dustin, an environmentalist representing the Ft. Wayne Chapter of the Indiana Izaak Walton League, feels that an incentive is needed to cause people with septic tanks living close to sewer systems to tie into those sewers. She thinks the proposed ordinance would serve that purpose.

"It says if the lot perks, it can have a septic tank with an absorption field, but if it does not perk, there is no building without access to sewers. Then it addresses the old systems and a rough estimate is 18,000 of those, although I think it's more like 25,000."

She said the ordinance prescribes an inspection system which permits a septic tank on a four-year basis. The septic system must pass inspection at the end of this period before it can be permitted again. That puts the county on an inspection improvement program and is an incentive for individual property owners to band together to build sewers connecting them to the Ft. Wayne municipal system.

EPA Region V officials recently met with Allen County and Indiana Stream Pollution Control Board officials to discuss a county-wide sewer district to solve area water pollution problems.

Mrs. Dustin feels that action should be taken in the meantime to alleviate the problem. "We think a county-wide sewer district is a great idea, but we don't think anybody has the right to sit back and wait for a grant, or for a sewer line to come to their door. We think it's an individual improvement that has to be made on the part of everybody."

She said Ft. Wayne recently had "a tremendous increase in its municipal wastewater treatment capabilities" from a $34 million construction grant. She thinks that the ordinance would cause outlying homeowners to feel that it's cheaper in the long run to hook up to this system than to spend money upgrading their own septic systems.

> . . . EPA has already become involved with eliminating the water pollution problems in Allen County . . .

State, also, has the responsibility to evaluate, review, and approve applications for the formation of sewer districts, and is currently attempting to assist the area in this activity."

They said at the Federal level, representatives of EPA have already become involved with eliminating the water pollution problems in Allen County. "After being apprised of the water pollution problems in the county at the September 16, 1976, meeting with county officials in Fort Wayne," they said, "representatives from EPA recommended the formation of a sewer district to expedite solution of the county's water pollution abatement problems."

They said that, as the formation of the district progresses, EPA can best contribute to the resolution of the problems by working with local and State officials to establish appropriate boundaries for a sewer district. "In addition," said Region V officials, "it will be our responsibility to provide timely review of any future district's application for wastewater system federal grant assistance."

In the meantime, environmentalists and local officials continue their debate on how the problem should be handled locally.

She said the main citizen groups backing the proposed ordinance are the Coalition for the Environment, a small group attempting to represent neighborhood groups and others peripherally interested in environmental matters; the local chapter of the Izaak Walton League; and the League of Women Voters.

The *Ft. Wayne Journal-Gazette* has written a series of editorials over the past year and a half which have been critical of the handling of the Allen County wastewater problem and calling for adoption of the proposed ordinance. The editorials have been particularly critical of the Allen County Board of Commissioners.

Vance Amstutz, one of three members of the Board and last year's president, is critical of the way the Board of Health's proposed ordinance was developed. "The commissioners are responsible for the ordinance. I don't know how you can let individuals write the ordinance. I think you have to take the input that you get from all of the constituents in the county and weigh all of the merits and the facts and then come up with some type of ordinance that people can live with," he said.

Amstutz said the Board of Health wrote five or six drafts of its proposed ordinance last year before it decided to give a copy to the Board of Commissioners. "It was probably just lack of communication," he added.

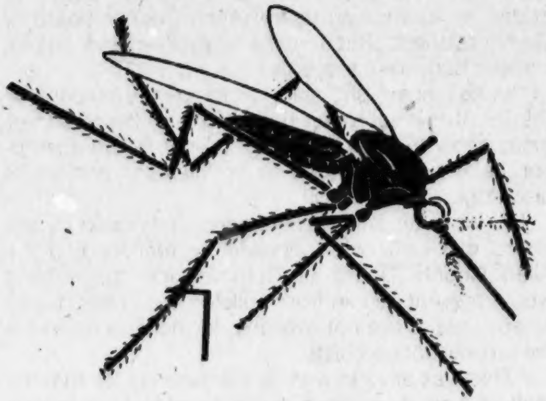
The Commissioner said that there are areas in Allen County where people have not taken care of their septic systems and the systems are polluting. But, he said: "The Board of Health and the Health Commissioner have the authority right now where they find this. They have the tools to work with already. They don't need a new ordinance to help that situation out."

He said if the Board of Health inspects and finds the septic tanks are polluting, they can require the owner to repair and take care of the system.

"I think one of the problems is that the Board of Health has not been enforcing the law that's on the books, and this is what makes you want to tread water pretty slow here to make sure that this is going to be done.

"My personal feeling is this. We know where the problem areas are, and this is where they should concentrate their efforts. If they take care of the areas that are most affected, we can solve an awful lot of our problems. Of course, we're going to get them solved. It's just a matter of taking a little time. But this problem wasn't created in a year, and we don't want to be pushed into an ordinance that's going to backfire on us and that people won't be able to live with. This is my main concern."

Amstutz said it would be economically unwise to try to tell everybody in the county that they are going to have a county-wide sewer district and that sewer pipe connections would go to every home. "It's just not in the books because we're going to have some areas where you just couldn't do that," he said.



He pointed out that the number of permits for septic tank installations has decreased over the years because new subdivisions are required to hook up to one of the utilities.

"Back 10 or 15 years ago I think over 1,300 permits were issued. Last year, I think only about 300 permits were issued. So you see it's decreasing. But this is never brought out," Amstutz said.

Officials at EPA's Region V Office in Chicago said their goal is to eliminate the reported existing sources of water pollution and to prevent potential water pollution from individual residences in Allen County.

In recent communications with environmental groups in Allen County who requested Federal assistance with their problems, Region V officials said they felt these goals can be achieved by a combination of local, State and Federal actions.

"At the local level," they said, "it is the responsibility of Allen County to enforce ordinances regulating individual wastewater treatment and disposal systems that will abate existing, and prevent future water pollution and associated health problems."

They said this includes inspection by county health officials. "It is at this level, also," they said, "that efforts to organize a sewer district must originate. As you know, county officials have taken initial steps to form a sewer district. Such a district, once formed, can qualify for Federal and State planning and construction funds." They urged environmentalists to contact the Allen County Ad-Hoc Sewage District Advisory Committee. (Chairman of the Committee is County Commissioner Vance Amstutz.)

Region V officials said the Indiana Stream Pollution Control Board is presently engaged in coordinating the preparation of a Water Quality Management Plan for the State. "It may be that some of their efforts in the Fort Wayne area can be directed to resolving the problems created by the malfunctioning individual wastewater treatment systems in Allen County.

Briefs

PCB discovery

The discovery of Peptachlorophenol (PCP), a wood preservative manufactured since the 1930's, and other chemical contaminants, in seven Michigan dairy herds, has resulted in a quarantine of those herds.

After a diagnostic study revealed the contamination, the Michigan Department of Agriculture placed a quarantine on the cattle prohibiting continued milk shipment and removal of the cattle from the farms.

PCP is a registered pesticide and is commonly used in treating lumber for building construction. Millions of pounds are manufactured annually and distributed nationwide.

The Department of Agriculture has contacted EPA, the USDA and other Federal agencies for assistance in identifying and controlling the problem.

Carbon tet spill

As a result of two February carbon tetrachloride spills which threatened drinking water supplies in Cincinnati and other towns along the Ohio River, U.S. EPA, Region V will meet with officials of the Agency's National Environmental Research Laboratory in Cincinnati to discuss ways of monitoring such spills and quickly alerting communities in danger. Along with this, EPA will discuss monitoring for more specific chemicals and their surrogates, and compiling a total of organic halogens.

Sewage guidelines

To avoid communities building sewage plants that are bigger and more expensive than necessary, EPA has proposed guidelines which could mean big savings to communities along with the States and the Federal government.

The proposals provide help in planning the optimum size of sewage plants that are adequate but not excessive so that communities save money and get the most benefit from limited available public funds.

Training course

YOU CAN MANAGE

Experienced personnel familiar with the skills and knowledge needed to operate and maintain wastewater collection systems have prepared a home-study correspondence course to train workers in the effective operation and maintenance of wastewater systems. The course, designed to furnish comprehensive training in sewer maintenance to permit better service to both employers and the public, is available for a fee of $60. The fee covers the cost of the course, all corrections and evaluations, the textbook and student manual.

Seven programmed lessons include the reasons for operation and maintenance, inspection, testing, cleaning and maintaining sewers, repairs, lift stations, safety, administration and organization. For further information contact:

Self-Study Course Coordinator
c/o Clark E. DeHaven
Director of Executive Programs
432 Eppley Center
Michigan State University
East Lansing, Michigan 48824.

Nuclear hassel

Hundreds of environmentalists from Indiana and important Kentucky officials, including the Governor, are testifying before a series of Federal Nuclear Regulatory Commission hearings to stop construction of a nuclear power plant at Marble Hill, Indiana.

Steel decisions

State and Federal officials met with representatives of U.S. Steel at Conneaut, Ohio on February 28 to discuss a new approach to planning for development of a new industrial facility. U.S. Steel is considering Conneaut as a site for a new plant which will be the largest steel making complex in the world.

The company has asked officials of Pennsylvania and Ohio as well as the Environmental Protection Agency and the Army Corps of Engineers about environmental protection considerations before making the final site selection.

Enviro-Pod

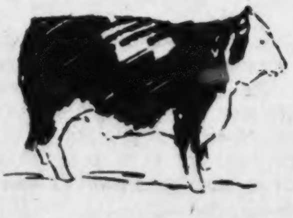
The Enviro-Pod, a compact, low-cost aerial unit, may be the best means yet for photographing environmental disasters such as oil spills, forest fires, and water pollution. Capable of taking clear photos from medium and low altitudes, the device is light enough (147 lbs.) and small enough (48 in. long) to be installed easily and quickly on small rental aircraft available to pollution officials at most U.S. airports.

At 5,000 feet, for example, the Enviro-Pod can provide clear photographic coverage of an area 4.1 miles wide by 150 miles long; at lower altitude it can take close-up photos which will reveal details of less than one inch.

Up to now this kind of information has been collected either by the LANDSAT satellite, from EPA or contract aircraft, or "up close" at the site of the problem, often making information too late to be timely, too costly, or in too little detail.

Fine-tuned for accuracy and ease-in-handling, the Pod could serve unlimited uses ranging from monitoring agricultural runoff, to collecting data for urban area studies, to updating maps, analyzing land use, and studying waterways and traffic patterns.

PBB testing



Michigan state agriculture department officials have asked state legislators for permission to go onto Michigan farms and test livestock for PBB poisoning against the owner's wishes.

The testing is designed to give the state better information on the extent of PBB contamination of Michigan farms.

The agriculture department has also supported Michigan Governor William Milliken's request to lower the permissible PBB levels in food.

Phosphates

Legislators in two more Great Lakes states want to put algae on starvation diets with bans on phosphates in detergents.

The conservation committee of the Michigan House of Representatives held a hearing February 17 on two bills that would cut allowable phosphates to trace amounts. A spokesman for the Michigan United Conservation Clubs told the legislators that some Lansing supermarkets already sell only nonphosphate detergents with no evidence of consumer dissatisfaction.

The proposed Ohio ban will be discussed by the Water Quality Board of the International Joint Commission. The bill is supported by the State Environmental Protection Agency as the best way to cut nutrient levels for algae.

Earlier in February the Indiana legislature turned down one effort to repeal the phosphate ban already in effect in that state. A phosphate ban in the Great Lakes region is advocated by the IJC and supported by a policy paper of Region V, EPA.

Pollution Solutions

Oasis
in
Space

Jacques and Philippe Cousteau tour the world to explore and seek solutions to water pollution, energy alternatives, industrial pollution, population, and the future in a six-program PBS series entitled "Oasis in Space".

The series confronts the degeneration of the environment and the increasingly evident link between degenerative disease such as cancer and industrial life styles.

In doing so, "What Price Progress?", the first program in the series, takes Philippe Cousteau to Minnesota to talk with research chemists at the Environmental Research Laboratory in Duluth. Scientists first discovered asbestos fibers in the 67,000 tons of taconite tailings discharged daily by the Reserve Mining Company in Silver Bay. Cousteau queries Reserve Mining officials, environmentalists and citizens now drinking asbestos in their water because of the Reserve discharge.

PEOPLE

Perpich

Minnesota Governor RUDY PERPICH stayed at home to consult with officials of Armco and Republic Steel about land disposal of tailings from Reserve Mining Company instead of going to the National Governors' Conference in Washington on March 1. After meeting with officials in Hibbing, Minn., he flew to Cleveland for further consultation with officials at Republic. In the short time he has been in office, the Governor has gained a reputation for dealing with difficult problems in person.

Warren

Congress has approved President Carter's nomination of a 49-year old California State Assemblyman, CHARLES H. WARREN, to serve on the Council for Environmental Quality (CEQ). According to Press Secretary Jody Powell, Warren will be named Chairman of CEQ.

Rouse

FREDERICK O. ROUSE, the 7½ year tenured Chairman of the Great Lakes Basin Commission, has left the commission to assume the position of Executive Director of the St. John's River Water Management District in Palatka, Florida. As Chairman of the Great Lakes Basin Commission, Rouse was a member of the U.S. team which negotiated the lateral Great Lakes Water Quality Agreement, signed by former President Nixon and Canadian Prime Minister Trudeau in 1972.

Burkhart

After a two-month, nation-wide search for an agency head, WILLIAM T. BURKHART has been named the Supervisor of the Regional Air Pollution Control Agency (RAPCA), Dayton, Ohio. Burkhart has been with the agency since March, 1970 and has been involved in virtually every fact of program planning and implementation for the agency. He replaced WILLIAM M. AUBERLE who has moved on to a position as Director of the Division of Air Pollution Control with the Colorado Department of Health. In the six years that Auberle headed RAPCA, the Agency grew from a small seven-person staff within the old Montgomery County Health Department (which did not include the City of Dayton) to a six-county, comprehensive air pollution control program employing 49 persons.

Schenzel

According to ANNETTE NUSSBAUM, EPA's Region V 208 Public Participation Coordinator, Wisconsin DNR's North Central District has one of the most effective public participation programs. One of the reasons why is GARY SCHENZEL, the Agency's director. As the former Deputy Director of EPA's Water Program, Region V, Gary is not only familiar with the "ins and outs" of the 208 program, but is committed to the public participation concept. His Rhinelander (Wis.) agency has over 120 citizens along with some 80 members of the press actively working on local water planning.

Epstein, Smith

The toxic substances issue brought environmentalist, researchers and public servants together for the well being of the public at a recent toxic substances meeting in Chicago. Two of those united for the effort were SAM EPSTEIN, M.D. at the University of Illinois's School of Public Health, Chicago who served on a panel and MARY ANN SMITH, Board Member of the Lake Michigan Federation. Mary Ann successfully rounded up members of the La Leche League, the Independent Precincts Organization, the Independent Voters of Illinois, physicians, professors, and political officials as well as the media to participate in the meeting.

Zimmerman

One of the first men to join the Indianapolis Chapter of the League of Women Voters has proven himself to be one of the most energetic. JERRY ZIMMERMAN, husband of a League member, was an active planner in the League's water quality workshop in Indianapolis on February 25-26. About 250 citizens, including many high school students, participated in the workshop, which was one of the activities the League sponsored as part of the public education program to support area wide water quality planning under Section 208 of the Federal Water Pollution Control Act.

Federal Register

FEBRUARY 1
Rules
Air quality implementation plans; various States, etc.:
  Massachusetts
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Proposed Rules
Air quality implementation plans; various States, etc.:
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FEBRUARY 2
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Notices
Pesticide registration:
  Compounds 1080 and 1081
Pesticides; specific exemptions and experimental use permits:
  A and M University
  Agriculture Department

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George R. Alexander—administrator

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Don't delay.

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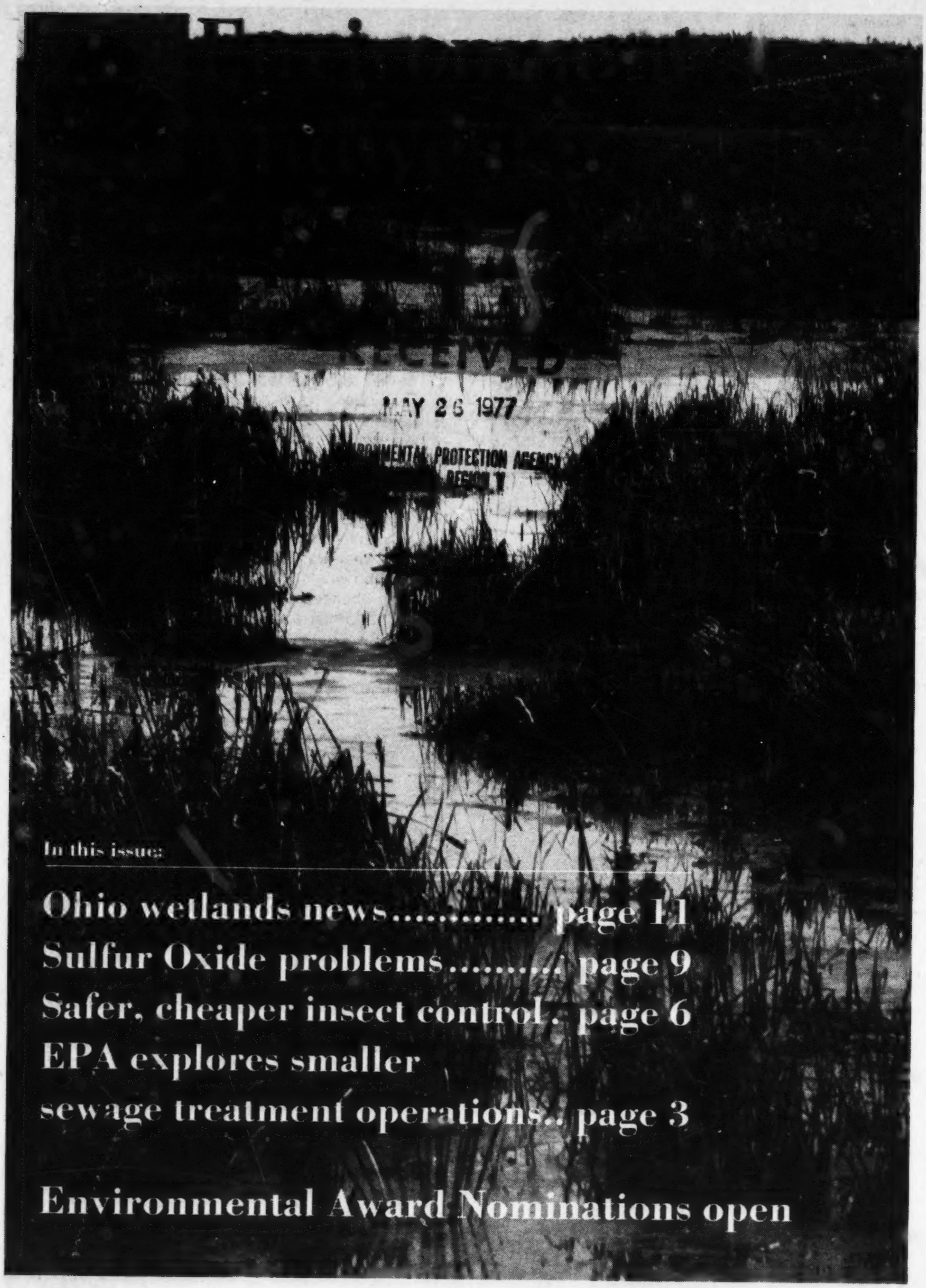

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ENVIRONMENTAL PROTECTION AGENCY
REGION V

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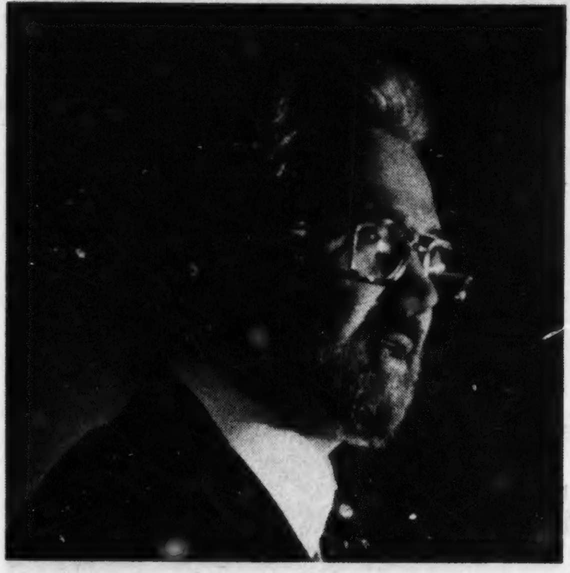


George Alexander, jr.

EPA seeks low cost sewage treatment methods

Word has reached us here in Region V that a bona fide expert in the field of whiskey distillery construction in the State of Kentucky has turned his considerable skills to sewage treatment in the State of Florida and has come out smelling like four (or more) roses.

After years of building legitimate "stills" in Kentucky, a puckish grandfather with an engineering degree from Purdue named Dan Abbott moved down to Florida Technological University in Orlando and became supervisor of what is now considered the cleanest, most odor-free sewage treatment plant in the state.

He has numerous awards to prove it. His plant recently received the Phelps Award given to the Florida plant with the cleanest effluent, and others are taking a close look at the methods used by the FTU sewage treatment plant with the idea of using them in their own operations.

Abbott and his crew at FTU have developed a method of eliminating most of the solid waste and all of the odor. They reportedly are turning raw sewage into "crystal-clear water, purer than most Florida lakes."

Most communities and institutions operating their own sewage treatment plants are concerned with serious problems caused by a byproduct of their process, sludge. Often, there is no place to put sludge, and if it isn't properly treated, it could constitute a health hazard, not to mention the smell.

The key to Dan Abbott's process is the treatment of sludge by aerobic, or air breathing, bacteria which he cultivates at the plant. Each day, some 150,000 gallons of incoming sewage gets a heavy shot of chlorine to kill off most of the potentially harmful bacteria, allowing the sludge to enter tanks, digestors and aerators as "food" for friendly bacteria which begin "munching away" at the sludge.

The result is an infinitesimal amount of sludge, the cleanest wastewater in Florida, and a boon to local taxpayers who would otherwise have to suffer the consequences whenever they were downwind of the plant.

For the former distillery builder from Kentucky, Dan Abbott, the process has been a source of pride and lush, red roses which he's growing on the leftover sludge.

Over the past year, EPA has been looking closely at the problem of providing adequate sewage treatment for small communities at prices they can afford to pay. This issue of *Environment Midwest* features a story on page 3 entitled "EPA Decides Small Can Be Beautiful for Sewage Treatment" which tells you the agency's plans for dealing with the question.

Letters

River Fox points pollution finger

Dear Sir:

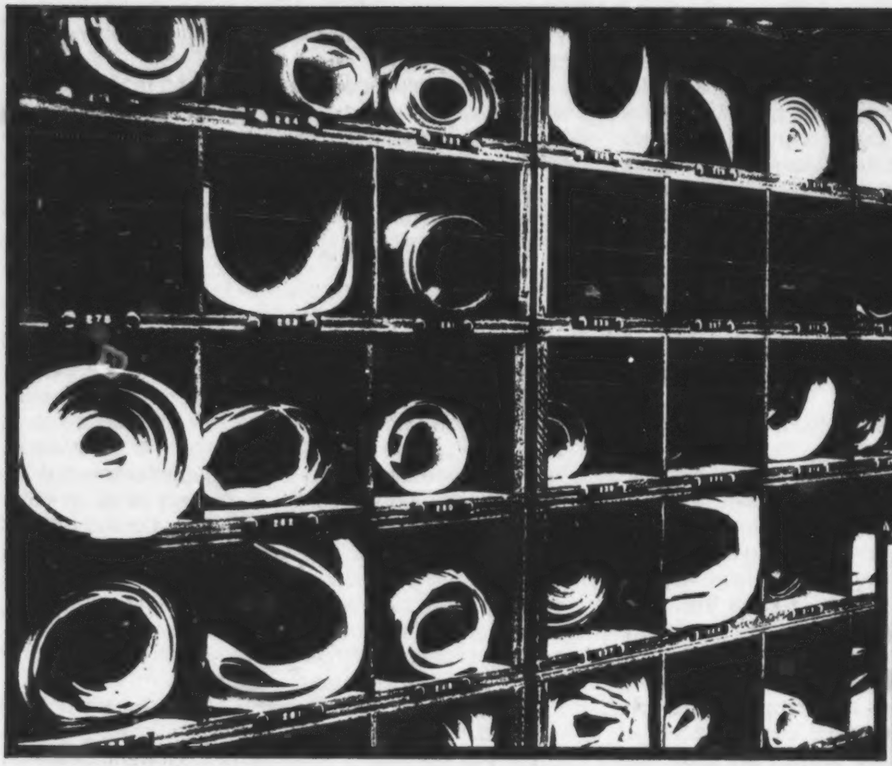
I want to report heavy industrial pollution here in LaSalle, Ill. Carus Chemical Co. has a large settling pond containing foul chemical stuff, and a two-foot-wide stand pipe emptying into the Little Vermillion River runs 24 hours a day pouring a 10-inch stream of "water" into the river, **purple** in color. Please help and come and check it out. It's been going on for **years.**

Sincerely,
Ill. River Fox

Dear Illinois River Fox:

After receiving your letter, we checked out the Carus Chemical Company with the Region V Enforcement Division. The Water and Pesticides Branch of that division tells us that, as required by its National Pollutant Discharge Elimination System Permit, Carus Chemical Company, located in LaSalle, Ilinois, is required to completely eliminate the discharge from its north lagoon to the Little Vermillion River by July 1, 1977.

The Editor



small can be beautiful for sewage treatment plants

John Rhett

By William G. Omohundro

For Americans, bigger has traditionally been better: big ranches, big cars, big airplanes, big houses, big department stores and shopping centers, big factories — and big wastewater treatment systems.

But we're beginning to learn that "it ain't necessarily so." Big cars guzzle too much gas and big houses cost too much to heat in winter. Big wastewater treatment systems are great for big cities, but for small communities they might be compared to using a cannon to neutralize a fly — a real case of overkill — not to mention the cost.

For a community of less than 10,000, the costs of a new wastewater treatment system can be particularly burdensome.

Over the past year or so, EPA has been taking a close look at the problem and the agency has come up with what it hopes will be adequate solutions.

Last summer, John T. Rhett, Deputy Assistant Administrator for Water Program Operations, told EPA Regional Administrators that "evidence is accumulating rapidly that many of the wastewater treatment facilities funded, or planned for funding (with EPA grants), are too expensive for the local population."

Rhett pointed out at the time that four communities faced with this problem had received widespread publicity. They were Walton, New York; Dunkirk, Ohio; Greenville, Maine; and Humboldt County, California. The Dunkirk, Ohio case was featured last year in a "60-Minute" presentation on the CBS television network.

"Headquarters review of a sample of facility plans indicates many more exceedingly expensive projects are planned, particularly for small communities," he added.

Rhett said the review had found that systems such as new or renovated septic tanks and holding tanks for individual homes and small clusters of homes had sometimes not been considered carefully even when likely to be far more cost-effective than collection and treatment networks.

"In view of this serious situation," Rhett told the Regional Administrators, "I ask that the regions ensure that facility plans contain a complete and careful cost-effectiveness analysis of alternatives involving maintenance and/or new construction of treatment systems for individual families and small clusters of families whenever these alternatives are feasible in the planning area."

He said the necessity for this analysis should be emphasized through preapplication conferences, contacts with municipalities and the states, and reviews of grant applications.

Concerned that residents of local communities were not being informed in time of their share of the bill for the treatment system, Rhett said: "The quality review of facility plans during the past year has shown that many lack financial information on non-Federal debt service or operation and maintenance costs and that, even where such data are presented, the costs are not usually translated into charges for a typical residential customer."

He said some EPA regions have indicated that most residents to be served by grant funded treatment works will be unaware of their financial obligations until construction of the works is 80 per cent complete and user charges have been determined.

"This problem would be eliminated and the goals of public participation better served by including an estimate of project costs to users and taxpayers in the facility plan," he pointed out. "Such a public estimate would also create a climate favoring careful consideration of the least cost alternatives, including greatest possible use of existing public and private facilities."

Rhett told the Regional Administrators that after January 2, 1977, it would be EPA policy to require that facility plans include certain kind of cost information. "These may be only rough estimates," he said, "and may be presented as a range of possible costs when major unknowns exist such as whether or not substantial parts of the project are grant eligible."

The first requirement of the policy is that the facility plan contain the estimated total capital costs for the recommended treatment works, a breakdown of estimated eligible and ineligible costs, and the estimated Federal, State, local governmental, and industrial shares of the capital costs.

> Resident . . . were not being informed of their . . . bill for the treatment plant . . .

Next, the plan must contain the expected method of local financing and estimated annual debt service charges or taxes (based on the expected interest rate for municipal borrowing) on the total local capital cost of the recommended treatment works.

Third, it must include estimated annual operation and maintenance costs and the estimated industrial and local government shares for the recommended treatment works.

Finally, the plan must contain the estimated monthly charge for operation and maintenance, the estimated monthly debt service charge, the estimated connection charge, and the total monthly charge to a typical residential customer.

In another policy directive designed to provide guidance for the interpretation of construction grant regulations, Rhett outlined the minimum standards that must be met for septic tanks, holding tanks and package plant treatment systems serving small clusters of homes to be eligible for funding for state approved and certified projects.

Under the new agency policy, septic tanks, holding tanks and package treatment systems serving small clusters of homes are eligible for funding as state approved and certified projects when: (1) the project provides the most cost effective method of treatment meeting local conditions and satisfying state and Federal requirements; (2) the project is a publicly-owned, operated, monitored and maintained facility; (3) the facility is located on public property except where easements will suffice; (4) secondary treatment, or more stringent level where required, is provided effluent discharged to a waterway; and (5) septic tank leach fields or other land disposal techniques meet local, state and Federal groundwater and public health criteria. Vehicles and associated capital equipment required for servicing systems are also grant eligible. Small systems serving only an individual home may not receive Federal funding, but septage treatment systems serving a group of individual family systems are eligible.

> Communities with less than 10,000 population pay higher sewage service costs.

In December of 1976, then EPA Administrator Russell E. Train sent a memorandum to all 10 EPA Regional Administrators enlisting their efforts to deal with the problem of high costs of treatment facilities in small communities. "We recently analyzed the seriousness of the problem in a national survey of completed facility plans for communities of less than 50,000 population," he said.

He said the survey included 258 facility plans from 49 states. The results indicated that operation and maintenance plus debt retirement of the local share for recommended new facilities will cost in excess of $100 per household per year in 40 percent of the communities and $200 per household in 10 percent of the communities. In several cases, costs exceeded $300 per household per year. Communities under 10,000 experienced much higher costs on the average than larger communities.

"Of the 258 facility plans," Train told the Regional Administrators, "83 were for completely *new* collection and treatment systems. Three-quarters of the 83 indicated costs in excess of $100 per household per year and one-fifth in excess of $200 per household per year."

He noted that a rough idea of the significance of these numbers may be gained by considering that the median annual family income in the U.S. is approximately $13,000. "Hence," he said, "$200 per year represents over 1.5 percent of the median family's annual income and $300 per year represents over 2.3 percent of an average family's annual income."

"If, as one might expect, the median annual income in small communities is less than the national average, the cost burden is actually higher than these percentages indicate."

Mr. Train said that virtually all the facility plans surveyed recommended conventional collection and treatment systems when such systems did not already exist. They were justified by one or more of several conditions, including increasingly population density, septic tank-soil absorption systems failures and subsequent water quality degradation, soil conditions unsuitable to onsite disposal of wastewater, and state and local public health standards.

The facility plans, with some recent exceptions, generally did not analyze the alternative of non-sewered systems for small communities even where potentially cost-effective, he said. "Such systems include septic tank-soil absorption systems with community maintenance programs and other small treatment systems for individual homes or small clusters of homes," said Train.

He said this alternative appears to have been overlooked in part because "it is not in the facility planner's ordinary vocabulary of solutions." Train told the Regional officials that widespread failure of septic tank-soil absorption systems due to poor installation and maintenance has resulted in a general conviction in the profession that conventional sewerage and treatment systems provide much better protection of ground and surface waters. State health standards have often reinforced this conviction, he said.

"EPA personnel have determined, perhaps erroneously in some instances, that some of these alternate solutions are ineligible for grants," Train stated. "Finally," he added, "facility plans have generally been based on conservative factors that predict relatively large populations with high water use."

What about communities where costly projects are unavoidable due to high construction costs, soil and climatic conditions which do not lend themselves to inexpensive systems, and stringent water quality standards requiring advanced waste treatment?

"Where relief is essential in these situations, EPA is at this time primarily dependent on publicizing additional financial support available from other Federal agencies such as the Farmers Home Administration. Headquarters is also considering other measures such as the amendment proposed last year to Section 202 of PL 92-500 which would limit the Federal share for projects to secondary treatment except where the grantee demonstrates that some more stringent level of treatment is the cost-efficient means of achieving the beneficial use of the receiving water."

The agency is taking a variety of measures to reduce costs where possible for small community facilitiesl, as follows:

-Changes to the secondary treatment requirements to eliminate disinfection except where required by water quality standards, and allow for less stringent limitations on suspended solids for small treatment lagoons.

-Program Requirements Memorandum (Rhett memorandum) of August 16, 1976, requiring that facility plans present local capital and operation and maintenance costs in readily understandable form and that this information be presented at all public hearings on facility plans.

-A Program Requirements Memorandum in preparation to emphasize that adequate consideration should be given to low-cost systems, and to provide guidance on the eligibility of septic tank-soil absorption systems, or alternative systems serving individual homes and small clusters of homes.

-A modification to the cost-effectiveness guidelines which establishes policies and guidelines to ensure cost-effective sizing and staging of treatment works.

-Development of a two-day seminar by the Office of Technology Transfer, for public officials, consulting engineers and other interested parties on small wastewater treatment plants and individual home or on-site treatment devices.

The EPA Technology Transfer Program has developed a series of seminars which are being held throughout the country. The seminars feature state-of-the-art case histories for the provision, operation and maintenance of adequate and economical wastewater treatment facilities for small communities.

Discussion subjects include present government policy on wastewater facilities, major types of conveyance and treatment systems, and comparative costs. Examples are provided of successful and cost-effective installations which meet environmental requirements, and alternative organizations for maintaining and operating small facilities are discussed.

To date, seminars have been held in four regions as follows: March 8-10, Region X, Seattle, Washington; March 29-31, Region III, Philadelphia, Pennsylvania; April 26-28, Region VII, Kansas City, Missouri; and May 4-6, Region I, Boston, Massachusetts. A national conference was held April 12-14 at Reston, Virginia.

Future seminars already scheduled include: May 24-26, Region IX, San Francisco, California; and July 12-14, Region VIII, Denver, Colorado. Other seminars are expected to be held. As soon as information is available on a seminar for Region V, *Environment Midwest* will announce it in a news brief.

Readers wanting additional information about the seminars should contact Dennis Lussier, Project Officer, Small Wastewater Treatment Systems Seminars, Environmental Research Information Center, Technical Transfer Program, 26 W. St. Clair, Cincinnati, Ohio 45268, Telephone 513/684-7394.

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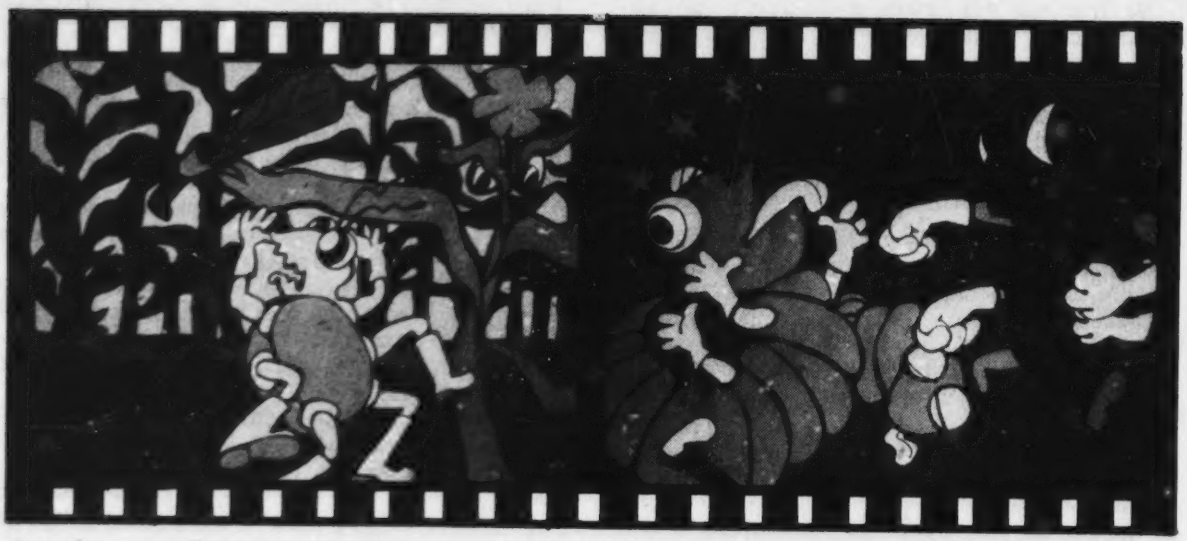
Frank Corrado — public affairs director
Bill Omohundro — editor-in-chief
Kathy Brown — briefs and people editor
Phyllis Kierig — layout editor



Safer, cheaper insect control eyed

By Phyllis Klerig

Farmers are fighting a war on bugs nationwide, in which the dilemma is cheap food versus environmental destruction.

Dr. C.B. Huffaker of the University of California at Berkeley recently preached the gospel of going slow with pesticides at an integrated pest management state-of-the-art seminar sponsored by the U.S. Environmental Protection Agency in Washington, D.C.

Huffaker's research has shown that the control of insects must be planned like a war strategy with pesticides as only one weapon in the arsenal.

Integrated pest management as seen by EPA requires that insecticides be applied at a critical stage and only in sufficient concentrations needed for the job.

"Pest control has reached a crossroads in the United States," said Huffaker. "The shortage of fossil fuels from which many pesticides are made will force the agriculture community to seek more lasting control of insects with less disruptive chemical pesticide side effects."

Huffaker went on to explain that we need less harmful pesticides to ease hazards to farm workers, public health and the environment.

"The Chemical Industry has long dominated the pest control battleground. The chemical salesman has replaced the farmer's dependency on the biologist to provide insect control answers," said Huffaker. "Too little money has been given to eco-system research and too little attention to the analysis of the eco-system."

Scientists started tinkering with crop biology after the Second World War, said the Berkeley professor, to produce high yields in soybeans, cotton and alfalfa.

The plant engineers got the high yields, but in the biological trade-off the plant lost its ability to defend itself against its natural enemies.

The scientists did not forecast what happens when one strain of resistance weakens the plant to attack from another insect.

"We must mix and match control techniques," said Huffaker, taking into account natural host enemy resistance, weather, crop rotation, and plant self-immunity.

"What we should be looking for in pest control is containment and not eradication," said the Berkeley researcher.

Huffaker began studying natural control systems five years ago with a $14 million grant comprised of $6 million from U.S. EPA and the National Science Foundation and $2 million from USDA.

The research money went to study pest control on six crops: alfalfa, citrus fruits, cotton, pome (fleshy fruits containing a core and seeds) stone fruits, soybeans, and pine forests.

One of the areas showing immediate results from the Huffaker research is the midwestern apple producing state of Michigan.

Dr. Brian Croft of Michigan State University has led the research in developing alternatives to heavy orchard spraying schedules.

Per acre, orchard farmers use more insecticide than any other farmers in the United States. (It is true that cotton farmers buy more pounds of insecticides on a per sale basis, but they also have more acreage over which to spread the insecticide.)

Orchard farmers felt they had to maintain the heavy schedule because over 300 insects had developed resistance to pesticides. The farmers were convinced that without spraying 10 to 30 times a season, they would lose their fruit.

Still, the apple farmer cannot sit on his hands while his crop is being lost to the European red mite, coddling moth and apple maggot, explained Croft.

The apple farmer's life is made difficult because the European red mite has developed immunity within a growing season to insecticides and the same insecticides have depleted the mite's natural enemies.

The war was being fought with more and more pesticides at ever increasing costs to the farmers and the environment.

"What alarmed me even more about the spraying habits of the fruit farmer," said Croft, "is that the Great Lakes are extremely susceptible to pesticides. The apple farmer's solutions are the problems of the Great Lakes."

As a solution to the lack of information, Croft set up a computerized dial-a-bug system. Now, Croft has been able to help farmers bring the price of insecticides down from $20 to $30 per acre to $8 or $9 per acre and sometimes as low as $2.50 per acre.

The dial-a-bug ecosystem models Croft set up to plan an insecticide control strategy depends heavily on weather monitoring to determine when or if an insect population will exceed the economic threshold.

What that means is the farmer does not spray until the bug population swells to the point that it threatens serious crop damage and then the farmer only uses enough spray to control the population explosion and not eradicate it.

By using selective insecticides, the orchard owner can slow down the bad bug growth and wait for the natural predators to take action, says Croft.

Another technique the orchard owner can employ is to use the weather and modeling information Croft supplies to put out sex scented traps for the apple maggot to gather data for the dial-a-bug system.

The ecosystem model Croft set up helped him discover that the apple maggot may be controlled with sex phermones during the mating season during the right weather conditions. By using the traps the farmer could also determine when the worm larva peaked and then spray only during the peak season.

In addition to the computerized tele-a-type war game information available from the county agent, Croft has used an insect newsletter to warn orchard owners when they should start to drag out the spraying equipment.

In Illinois, Indiana and Ohio, Dr. Mahlon Fairchild at the University of Missouri has researched the ecosystem of the corn plant to find the natural enemies.

Fairchild discovered that corn enemies can be controlled by planning that considers soil drainage, nutrients, border vegetation, crop rotation, planting date, tillage and weeds.

Already, Fairchild has learned that the worst combination of crops for wire worm and cutworm infestation is corn followed by soybeans or vice versa.

When soybeans are followed by corn, the soil is somehow made more attractive for wireworms and cutworms.

By studying the insect anthropods that damage corn crops, Fairchild said control techniques can be developed.

By studying the cultural practices of anthropods, he found wire worms can be baited in the field with traps. Study has also revealed that wire worm infestation is a localized problem. Once the wire worm migrates to a site, it claims squatter rights.

Cutworms can be controlled by light traps and encouraging the worm's natural parasites to kill the cutworm. In order to encourage the natural parasite, Fairchild indicated, it is necessary to hold off spraying a broad spectrum insecticide that would kill the parasite and the cutworm in one swoop.

Cutworm control could also make giant strides, Fairchild said, if we knew the overwinter migration site of the cutworm. We could kill the worm at its winter home before it set up its permanent home in midwestern fields.

Dr. Duane Newsom of Louisiana State University talked about soybean insect control progress.

In studying the ecosystem of the soybean, Newsom said they discovered that the stinkbug which is the biggest insect control problem for soybeans has a number of insect enemies.

Unfortunately, the stinkbug's predator species looks like the enemy Newsom said.

The soybean's other major enemy — the soybean looper — has also refused to be destroyed by insecticides.

In northern Florida, Georgia and South Carolina farmers have noted that the looper, which is also a problem in the midwest, has bred a better defense after being exposed to an insecticide used on vegetables and chrysanthemums in southern Florida which is the site of origin for the looper that migrates northward.

Thus, the insecticide used for an entirely different purpose in one state confers immunity on the looper that eats damaged soybeans in sister states.

What has proven to be effective against soybean enemies is a virus. Currently, an imported Brazilian virus is effective against soybean worms, but it has to be applied right before the worms eat too much of the soybean.

Lovers of the land are questioning the wisdom of continuously pouring chemical poisons on the earth. How long will it take for all insects to develop resistance? How long will it take for our chemical pushers to realize they might be wrong. Integrated pest management is one of the answers.

Water quality workshops set

Great Lakes Tomorrow is sponsoring free workshops to help the public prepare for the International Joint Commission hearing on Lake Superior and Lake Huron water quality in June and July.

The May workshops will be: May 24, 1 p.m., at the University of Minnesota Duluth campus ballroom, Duluth, Minn. Coordinator for the hearing is Tom Klein, (715) 682-4531. The hearing will be June 20 in Superior, Wis.

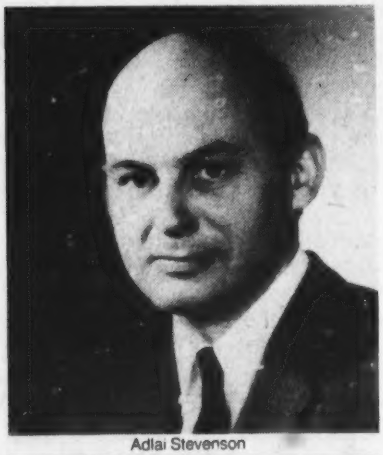
The second workshop is May 26, from 1 to 8 p.m., at Michigan Technological University Memorial Union ballroom, Houghton, MI. The coordinator is Barbara Clark at (906) 482-8276. The hearing is June 23 in Houghton.

The third workshop is planned for the first week in June. The hearing is set for July 12 at the Saulte Ste. Marie, Ontario civic center. The coordinator is Russ Dennison at (705) 254-4077.

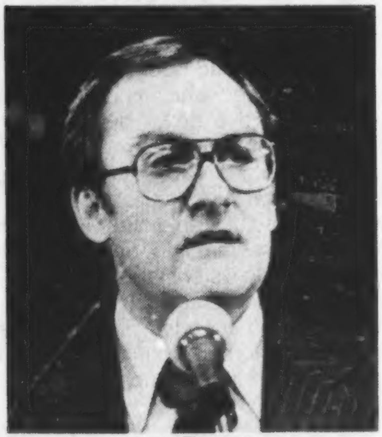
The fourth workshop is planned for the Saginaw-Bay City, MI. hearing on June 14. The Saginaw, MI. hearing is scheduled for July 14. Coordinator for the meeting is Mrs. Nicki Haberland, (517) 684-6572.

General information on the preparation workshops can be obtained by phoning Richard Robbins at Great Lakes Tomorrow, (312) 427-5121.

PEOPLE



Adlai Stevenson



James Thompson

Pat DeLuca

U.S. CONGRESSMAN J. EDWARD ROUSH of Indiana has been named the director of the U.S. EPA's Office of Regional and Intergovernmental Operations. Roush, 56, will coordinate the activities of EPA's ten regional offices as they relate to implementing national environmental policies.

Chicago's MAYOR MICHAEL BILANDIC, and U.S. SENATOR ADLAI STEVENSON were among officials who participated in the dedication ceremony of EPA's National Noise Exhibit at the Museum of Science and Industry in Chicago, March 28. Also on hand were TED BERLAND, President of Citizens Against Noise; GEORGE ALEXANDER, EPA Region V Administrator; WALLY POSTON, Director of the Chicago Department of Environmental Control; BILL PLOTKIN, Chicago Hearing Society; SHERRY ZOARS, LaGrange League of Women Voters, and other city and county officials.

GOVERNOR JAMES THOMPSON has declared May 14-22 Clean Streams Week in Illinois. The program was initiated statewide by the Illinois EPA and regional and county planning commissions to involve citizens in ridding the state's waters of pollutants. Citizens are being asked to help develop land management schemes, educational programs, economic incentives and new regulations to help alleviate problems at the local level.

RICK SHANK, of Ohio EPA's Water Quality Standards Division, is one of seven outside consultants to be invited to participate on U.S. EPA's task force on water quality standards and objectives of PL 92-500. The task force is made up of 22 EPA officials, consultants from state pollution control agencies in Ohio, California, Kansas, and Florida, as well as representatives of the Manufacturing Chemical Association, the Natural Resources Defense Council and the U.S. Fish and Wildlife Service. The group will set guidelines on policy and procedures and identify voids in technical information.

PAT DELUCA, Director of North Ohio Air Authority, reported Ohio's first air alert of the season March 11, approximately one month earlier than last year's first alert. DeLuca said the time of this alert "may be indicative of what is to come in 1977 due to the forecasts of above normal temperatures."

Wisconsin Department of Natural Resources has as its new Director of the Bureau of Information and Education, JEFFREY SMOLLER, former Press Secretary for the Governor of Wisconsin. Smoller has also been Director of the Upper Great Lakes Regional Commission.

DENNIS MCGUIRE, Acting Chief of the Gary Air Pollution Control Division for the past 18 months, has been officially confirmed as Chief by the Gary Health Board.

Two steel mills in Region V have announced environmental appointments. Bethlehem Steel Corporation at Burns Harbor, Indiana, has named ERNEST W. BRIX Assistant Superintendent of Environmental Control; the Midwest Steel Division of National Steel Corporation at Portage, Indiana, has appointed KENNETH L. ARMOUR Director of Environmental Affairs and Safety.

Dr. Carl Shy

Sulfur oxide gas threatens health of Ohio citizens

Dr. Carl Shy

By William G. Omohundro

A national authority on health problems caused by air pollution told Ohio lawmakers in March that greatly increased atmospheric emissions of sulfur oxides are far too great a threat to the public health of Ohio and its downwind neighbors.

Speaking on behalf of the Ohio Lung Association, Dr. Carl M. Shy, research professor in the Department of Epidemiology at the School of Public Health and Director of the Institute for Environmental Studies at the University of North Carolina at Chapel Hill, said: "We can utilize eastern coal in power plants which install the best available control technology. Protection of public health fully justifies the cost."

Dr. Shy, a physician and epidemiologist who has been personally involved in many studies of the health effects of air pollution, is former director of the EPA Human Studies Laboratory at Research Triangle Park, N.C. He also serves as a consultant to the world Health Organization, the National Institute of Environmental Sciences, EPA, and the California Air Resources Board.

"It seems inevitable that our country will rely increasingly on its coal resources for energy, over the next 25 years at least," Dr. Shy told the Ohio House Energy and Environment Committee and the Ohio Senate Conservation and Environment Committee. "We must burn this coal as cleanly as possible," he added.

"If you are unwilling to impose the cost of clean coal combustion on the users of electricity," he said, "you are in effect passing this cost on to our children, to those afflicted with asthma, heart and lung disease, and to the elderly in the form of respiratory and other diseases that are not only tremendously costly but are life threatening and life shortening for many."

He said we have the technology to avoid this public health burden, and urge the Ohio legislators to use their legislative powers to ensure that this technology is put into effect by the electrical utilities.

"As I understand the issue being considered by your committee," Dr. Shy said, "the electric power utilities wish to add significant fossil fuel generating capacity in Ohio but are reluctant to install the costly technologies required to remove sulfur oxides emitted in the combustion process."

He said he also understood that for economic and employment reasons, it is desirable to utilize eastern coal which tends to have a sulfur content in the range of 2 to 5 percent which is considered to be a high sulfur coal.

"The position of the Ohio Lung Association and the American Lung Association on this issue is that the best available control technology should be required to minimize sulfur oxide emissions from fossil fueled power plants," he explained. "I wish to provide you with the rationale for this position from a public health viewpoint," he added.

First, he stated, sulfur oxide air pollution is a hazard to the health of a large proportion of the general population. The diseases and health conditions aggravated or otherwise affected by sufur oxide air pollution are very common health problems. Some three per cent of the total exposed population has asthma, 10 to15 per cent of the exposed adult population has chronic bronchitis and emphysema, five percent of the exposed adult population has heart disease, 100 percent of the total exposed population are subject to acute respiratory infections, and 100 per cent of the children exposed are susceptible to disturbed lung function.

"Children, the elderly, all asthmatics and persons with chronic respiratory and heart disease are particularly susceptalbe to air pollution," he stressed.

He said these groups comprise a substantial segment of the general population. "Generally," he added, "only the more severly ill or impaired individuals in these population groups are at greatest risk of ill effects from minor excursions above the air quality standards, but because of the large population of susceptible, even a small proportion of afflicted adds up to a large public health burden."

To illustrate his point, he said that in 1966 British researchers Douglas and Waller had published the results of a study in a British medical journal which evaluated 3,00 children 15 years old who were followed since birth in various parts of England.

"Children growing up in areas with SO2 and particulate pollution just above our primary standards had 58 percent more lower respiratory illnesses in the first nine months of life, 25 percent more in the first two years, and 109 percent more hospitalizations for bronchitis in the first five years than their counterparts residing in less polluted communities," he told the Ohio legislators. Other British and American investigators have confirmed a significantly greater frequency of acute respiratory illness in children living in polluted communities, he added.

Turning to the second point in the rationale for his general conclusion, Dr. Shy said that estimates of health damage from population exposure above national standards reveal a severe public health impact, measured in terms of milions of days of aggravated respiratory disease.

In 1974, he noted, the National Environmental Research Center evaluated the potential public health effects of increased emissions of sulfur oxides from steam electric power plants, attributable largely to increased use of coal in the absence of sulfur oxide stack gas cleaning. Excess mortality and illness rates were calculated by obtaining a damage function for each of five health effects associated with sulfur oxide exposure. Damage functions were based upon published results from studies in two to six geographic areas per adverse health effect. Population size and exposure for each electric power region east of the Mississippi River were considered, and estimates of illness attributable to sulfur oxides were derived.

Pointing out that the results of the study were projections and not predictions, Dr. Shy said: "Non-attainment of air quality standards in a wide and densely populated region could result in a phenomenal health impact, measured in terms of millions of days of aggravated disease, asthma attacks and lower respiratory disease episodes.

A third point in Dr. Shy's rationale is that the margin of safety between air quality standards and estimated thresholds for adverse health effects is exceedingly small, and for some effects, may not exist.

"In 1973," he said, "the National Academy of Sciences undertook an evaluation of the health basis for the air quality standards. This task was taken on at the request of the then Senate Subcommittee on Air and Water Pollution, and results were published in a series of Committee Prints."

One of the papers (published in the *Proceedings of the Conference on Health Effects of Air Pollutants, 1974)* was prepared by Dr. John Finklea, currently Director of the National Institutes for Occupational Safety and Health, and addressed the issue: what safety margins are contained in the present primary air quality standards?

> Non-attainment of air . . . standards in a wide and densely populated region could result in a phenomenal health impact . . .

Dr. Finklea also comments that the safety margins contained in the air quality standards are much smaller than those applied to the control of ionizing radiation and most environmental chemicals in which 10-fold and 100-fold safety margins are sometimes used, according to Dr. Shy. There is little or no apparent safety margin associated with the sulfur oxide/particulate complex of air pollutants.

Dr. Shy said the primary air quality standards for SO2 and NO2 do not necessarily offer health protection against the atmospheric transformation products of these gases, namely, sulfuric and nitric acid aerosols, acid sulfates and nitrates.

"There is considerable evidence that some of these transformation products are biologically more reactive than the parent SO2 and NO2 compounds," he pointed out. "These transformation products are submicronic in size and can be transported for distances of several hundred miles, resulting in a region-wide air pollution problem that may well affect most of the densely populated mid-western and northeastern states."

He said that even in areas in which primary air quality standards have been achieved, atmospheric concentrations of unregulated pollutants such as sulfates and other submicronic particles are disturbingly high.

"Allowing more emission sources in clean air areas will merely aggravate this region-wide air quality problem," he added.

The health effects specialists told the legislative committee members that as more sensitive indicators of health response to air pollution are being developed and used by researchers, evidence of adverse health effects at increasingly lower exposures is being reported.

He said that examples of such findings can be found in recently reported studies on chest pain in carbon monoxide cardiac patients, on airway resistance of healthy subjects exposed to ozone, and on airway resistance in asthmatics exposed to NO2.

"It is very likely that we have failed to measure some of the adverse health effects experienced by persons exposed to pollutants lower than those prescribed by the primary air quality standards," said Dr. Shy.

Briefs

Pesticides okayed

With written-in safeguards, EPA has approved the use of five experimental pesticides to help farmers minimize crop damage this growing season.

Four of these pesticides — "Bolstar 6," "Ambush," "Pounce," and "Pydrin" — will be used to combat an expected epidemic of caterpillars on cotton in the southern states. Cotton is America's fourth ranked cash crop.

Insecticide producers estimate that enough of the compounds can be made to protect as much as $15 million worth of the $20 to $40 million crop from caterpillar damage.

The fifth pesticide, "BAAM," has been authorized to help protect the nation's pear crop in Washington and Oregon from an aphid-like insect called the pear psylla.

EPA has not yet "registered" these five pesticides, but each has undergone preliminary investigation for "restricted use" approval.

Grain dust clean-up ordered

A grain dust clean-up was ordered for Sharrock Elevator Company Inc. of Edison, Oh. in late April.

The region V enforcement staff sent Sharrock a 30-day notice-of-violations of state air pollution regulations after technical investigation revealed that the elevators were emitting approximately 214 tons of dust per year while the national limit is 34 tons per year.

Sharrock will have an opportunity to voluntarily correct the fugitive dust and air pollution nuisance problem.

U.S. EPA took action on the grain dust problem after receiving complaints from town citizens and notice from state officials. Sharrock was cited because of truck unloading and unloading procedures and grain handling problems.

U.S. EPA is also taking comments on proposed new source standards for grain elevevators. For more information contact U.S. EPA in the public affairs office, 230 S. Dearborn, Chicago, IL 60604.

EPA sponsors energy/environment symposium June 6-7

A two-day symposium sponsored by EPA on Federal efforts to assure compatibility of accelerated energy development and the nation's environmental program will be held June 6-7, 1977, at the Sheraton-Park Hotel in Washington, D.C.

The meeting, called the Second National Conference on the Interagency Energy/Environment Research and Development Program, will host speakers from the 17 Federal agencies and departments participating in the program. It is expected to draw a wide spectrum of U.S. Government research managers, State and local officials, and interested private persons.

The symposium is a follow-up to the National Conference on Health, Environmental Effects, and Control Technology of Energy Use, held February, 1976, which first introduced the Inter-Agency Energy/Environment Program to the public and laid plans for the future.

208 water quality meeting set

Interested citizens and representatives from conservation, farm, garden and other organizations are being invited to a 208 Water Quality Workshop in Lansing Michigan June 17. U.S. EPA through the National Wildlife Federation and the Michigan United Conservation Clubs is sponsoring the conference to promote water quality, to stop water pollution and to utilize water quality planning. Further information may be obtained from Richard L. Jameson, MUCC, Box 30235, Lansing, Mich. 48909.

Michigan signs Safe Drinking Water Act

Governor William G. Milliken on January 4, 1977, signed into law Michigan's Safe Drinking Water Act, giving the State primary enforcement responsibility for the public water supply program mandated by the Federal Safe Drinking Water Act.

Now the State Division of Water Supply must develop rules for implementation of the act.

EPA's Regional Water Supply Branch Chief, Joseph Harrison, said: "Michigan shows itself to be a very progressive state in getting the law passed. It's one of the first states to assume the responsibility for the safety of its drinking water."

Michigan milk quarantine lifted

FDA tests on milk from 6 of 8 Michigan dairy herds quarantined because of the presence of pentachlorophenol (penta) in the blood have revealed no penta or the contaminant dioxin in the samples. As a result, E. Dale Ball, Director of the Michigan Department of Agriculture, has reinstated milk shipments from those 6 quarantined farms. Quarantine of the animals, however, will continue until ongoing testing of tissue samples is completed.

Two other herds are not being restored to the milk market. Tissue samples from one herd were found to contain dioxin, and the cattle have been scheduled for burial at the Kalkaska site operated by the Michigan Department of Natural Resources. Tests of milk samples from the other herd were inconclusive. Existing quarantine and milk suspension will continue until additional tissue sample tests are completed.

Wetlands compromise

EPA Region V officials announced April 26 that they have reached an agreement with the State of Ohio designed to minimize the environmental impact of construction of proposed State Route (SR) 82-Warren Outerbelt Project in Trumbell County, Ohio.

Region V officials said the State has given assurances that efforts will be made to minimize the adverse environmental impact of highway construction.

Further, they said, State officials have assured the agency that they will initiate a plan to preserve the remaining Mosquito Creek flood plain's wetlands which would border the proposed 2.77 mile, four-lane freeway.

Following an April 25 meeting in Chicago, the EPA officials said that Ohio State Senator Thomas E. Carney (D-Girard) had told them that he plans to introduce legislation that would turn the wetlands bordering the proposed highway into some type of publicly owned open space such as a park or wilderness area.

Also, Region V officials said that high-level Ohio officials had told them that Governor James Rhodes had indicated that he would support efforts to preserve the rest of the area as an open space.

Detroit sewage treatment crackdown

Region V of the U.S. EPA recently moved against one of the single largest polluters of the Great Lakes — the city of Detroit.

Region V, administrator, George Alexander, referred the case to the U.S. Attorney in Detroit. The Detroit case is the first enforcement action against a major municipal discharger in Region V. Detroit mayor Coleman Young indicated that exceptionally low charges to city and suburban users of the system had not produced adequate revenues to pay its portion of the treatment plant construction costs.

Costle explains clean air policy

Douglas M. Costle, administrator of U.S. EPA, released the President's policy on proposed amendments to the Clean Air Act under consideration by Congress late last month.

Costle said EPA was committed to cleaning up pollution from automobiles.

"The standards we are recommending today are tough but fair," said Costle. "They will help us reduce smog and protect public health."

The proposed recommendations are: That statutory standards for hydrocarbons of .41 grams per mile be met beginning with the 1978 model year.

The standard for carbon monoxide should be set at 9.0 grams per mile in 1979, with the statutory standard of 3.4 grams per mile in effect beginning with the 1981 model year.

The standard for nitrogen oxides should be set at 2.0 grams per mile in 1979, and 1.0 grams per mile for 1981 and thereafter unless the Administrator decides by 1980, based on health impacts, that the 0.4 grams per mile statutory level is needed beginning in 1983.

Costle said EPA will promote the use of best available control technology to limit emissions on new power plants and new industrial facilities.

In areas where the air is already meeting ambient air quality standards, Costle said EPA would support legislation to limit additional new pollutants.

"We also support mandatory protection for National Parks and other significant national areas," Costle said.

In parts of the country with dirty air now, Costle said EPA must write a policy that allows growth in nonattainment areas.

In dealing with the complex decision of whether or how to allow industrial growth in areas with dirty air, Costle asked Congress for a year's delay in formulating policy.

Finally, Costle said the President was committed to the achievement of our energy goals in a manner which will not compromise the attainment of our environmental objectives.

Lake clean-up

EPA's Corvallis Environmental Research Laboratory, Corvallis, Oregon, has announced funding of five evaluation projects, now underway, three within Region V.

Mirror, Shadow and White Clay lakes in Wisconsin are being studied to assess the limnological effects of the storm water diversions, in-lake nutrient inactivation and best land use practices, respectively. Socio-economic costs and benefits of changes in water quality resulting from these practices will also be evaluated, officials say.

Lilly Lake has been chosen as the site for Wisconsin scientific evaluation of the effects of dredging an entire lake basin and deepening the lake from a maximum 6 feet to a maximum 20 feet. The dredging will be followed by an aluminum sulfate application to remove phosphorous and suspended materials which may be generated during the dredging.

Pesticide certification plan accepted

Notice of full approval of Nevada's State Pesticide Certification Plan and EPA's intent to approve Minnesota's plan were published in the February 2, 1977 *Federal Register.* These actions bring to 10 the number of State certification plans with full approval, 22 with contingency approval, and 10 with notice of intent to approve. Of the 10 states with approved plans, three, Michigan, Ohio and Indiana, are within Region V.

Cadillacs recalled

EPA has ordered the recall of approximately 135,000 1975 Cadillacs for violation of air pollution standards.

The General Motors cars recalled include Sedan de Ville, Coupe de Ville, Eldorado, Calais, Brougham and Fleetwood.

Recall is based on a defective carburetor design which has resulted in excessive emissions of carbon monoxide (CO). EPA's emission tests on 1975 Cadillacs indicated that all the vehicles tested exceeded the CO standard — emissions were nearly three times the allowable Federal limits.

A retest program conducted by Cadillac Motor Division confirmed the violation.

Keopane test burn successful

The research test burn of Kepone in Toledo, Ohio, has been successfully completed after many delays due to weather, energy and mechanical problems.

An analysis of stack gases from the 28 pounds of Kepone incinerated showed a concentration of about 30 nanograms per cubic meter, significantly less than the 1 microgram per cubic meter standard imposed on the test.

As a result of the test, scientists now have sufficient data for the design and construction of a special chemical incinerator in Hopewell, VA.

Bloomington PCB sludge pile-up

The Bloomington, Indiana Utility Service Board is trying to find a way to dispose of 800 tons of PCB contaminated sludge piling up at the city's south sewage treatment plant.

Besides the problem of the growing pile of sludge, a way must be found to clean out nearly six miles of contaminated sewer pipe from the Westinghouse Electric Company plant to the treatment plant.

PCBs — polychlorinated biphenyls — have been linked with birth defects, cancers, and other diseases.

$45 million refund ordered

Ohio's Attorney General William Brown has asked the Ohio Public Utilities Commission to order the Ohio Power Company, headquartered in Canton, to refund $45 million to its customers. Brown told the Commission the company has overcharged its customers by almost $12 million. The Attorney General also charged Ohio Power has used western coal resulting in excessive fuel costs and has improperly passed on to its customers the costs of testing low-sulfur western coal. Brown also said some of the company's repair costs were improperly added to customer bills. Officials of Ohio Power have denied the allegations.

FEBRUARY 7

Rules

- Air quality implementation plans; various States, etc.:
  - New Jersey

FEBRUARY 8

Rules

- Air quality implementation plans:
  - Bus-purchase regulations; Virginia, Maryland and District of Columbia
- Grants, State and local assistance
  - Subagreements; interim regulations
- Small business loans; water pollution control
- Water pollution; effluent guidelines for certain point source categories:
  - Pesticide chemicals

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - California
  - Virginia

Notices

- Air pollution control:
  - Chrysler Corp.; recall, order; hearing
- Pesticide programs:
  - Kepone levels in seafood; extension of comment period
- Pesticide registration:
  - Applications

FEBRUARY 11

Rules

- Air quality implementation plans; various States, etc.:
  - Michigan

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Nebraska

Notices

- Committees, establishment, renewals, etc.:
  - Toxic Substances Advisory Committee
- Environmental impact statements, availability, etc.:
  - Environmental Radiation protection; Uranium Fuel Cycle
- Food additive petitions:
  - Army Department
  - Chevron Chemical Co. and Monsanto Agricultural Products Co.
  - Monsanto Agricultural Products Co.
- Pesticide applicator certifications; State plans:
  - Idaho
- Pesticide programs:
  - Disposal of pesticide containers and excess pesticides; notification of Secretary of Agriculture of final regulation
- Pesticides; specific exemptions and experimental use permits:
  - Dow Chemical and American Hoechst Corp.

FEBRUARY 15

Rules

- Air quality implementation plans; various States, etc.:
  - Massachusetts
- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - S-Ethyl dipropylthiocarbamate, glyodin, endrin, and biphenyl

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - California

Notices

- Air pollution; ambient air monitoring reference and equivalent methods
- Air pollution control:
  - Photochemical oxidants; criteria, standard and control program
- Meetings:
  - Science Advisory Board
  - Toxic Substances Task Group
- Pesticide applicator certification; State plans:
  - Georgia
  - Michigan
  - Mississippi
  - Ohio
- Pesticide programs:
  - Chlorofluorocarbons in aerosol products
- Pesticides; specific exemptions and experimental use permits:
  - Hawaii
  - Mobil Chemical Co.

FEBRUARY 16

Notices

- Air quality standards; "emission offset" interpretative ruling; hearings; change in location
- Environmental statements; availability of agency comments

FEBRUARY 17

Rules

- Air quality implementation plans; various States, etc.:
  - Oregon
- Water pollution; effluent guidelines for certain point source categories:
  - Seafood, canned and preserved

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Pennsylvania
- Waste management; discarded material recovery and reuse, land disposal, hazardous wastes

Notices

- Pesticide programs:
  - Rebuttable presumption against registration and continued registration of pesticide products containing Lindane

FEBRUARY 18

Proposed Rules

- Air pollution; standards of performance for new stationary sources:
  - Sewage sludge incinerators; correction

Notices

- Environmental statements; availability, etc.:
  - East/Central Contra Costa County Wastewater Management Plan
  - George Neal Steam-Electric Generating Station
  - Ocean Dumping Criteria, proposed revisions
  - Reno-Sparks Joint Water Pollution Control Plant
- Meetings:
  - Interagency Committee on Testing
  - State-Federal Water Programs Advisory Committee

FEBRUARY 23

Rules

- Water pollution; effluent guidelines for certain point source categories:
  - Cement manufacturing
  - Inorganic chemicals manufacturing; withdraw; correction
  - Oil and gas extraction, onshore segment; extension of time

Proposed rules

- Air quality implementation plans; various States, etc.:
  - Maine
  - Washington

Notices

- Lead standards; solicitation of public participation in development
- Minority business enterprise; policy on utilization of A&E Consultant

FEBRUARY 24

Notices

- Pesticide products containing nitrosamines; public hearing

FEBRUARY 25

Rules

- Air quality implementation plans; various States, etc.:
  - Tennessee

Proposed Rules

- Grants, State and local assistance:
  - Treatment works construction; cost effectiveness analysis guidelines; correction

Notices

- Environmental statements; issuance and availability; Oregon; addendum
- Meetings:
  - Science Advisory Board Technology Assessment and Pollution Control Advisory Committee
  - Solid waste management discussion
- Pesticide applicator certification; State plans:
  - Minnesota
  - Nevada
- Pesticide registration:
  - Safrole-containing products; cancellation

MARCH 1

Rules

- Noise abatement programs:
  - Transportation equipment; trucks, medium and heavy

Proposed Rules

- Pesticide chemicals in or on raw agricultural commodities, tolerances and exemptions:
  - Methoprene

Notices

- Air pollution control:
  - Phosphate fertilizer plants, existing; control of atmospheric fluoride emissions
- Meetings:
  - Science Advisory Board, Ecology Advisory Committee
  - Science Advisory Board, Environmental Measurements Advisory Committee
  - Toxic substances
- Pesticide applicator certification, State plans:
  - Rhode Island
- Pesticide chemicals; tolerances, exemptions, etc.; petitions:
  - Ciba-Geigy Corp.
  - Herculite Protective Fabrics Corp.
- Pesticides; specific exemptions and experimental use permits:
  - American Hoechst Corp.
  - Ciba-Geigy Corp.

MARCH 2

Rules

- Air pollutants, hazardous; National emission standards
  - Asbestos

Proposed Rules

- Air pollutants, hazardous; National emission standards:
  - Asbestos
- Air pollution; standards of performance for new stationary sources:
  - Iron and steel plants; basic oxygen process furnaces

Notices

- Meeting:
  - Municipal Construction Division Management Advisory Group

MARCH 3

Notices

- Pesticide applicator certification; State plans:
  - Michigan; correction
- Pesticides, specific exemptions and experimental use permits:
  - Oregon Department of Agriculture
  - Washington Department of Agriculture

FARM CREDIT ADMINISTRATION

Rules

- Sunshine Act; implementation

MARCH 7

Notices

- Pesticide chemicals; tolerances, exemptions, etc.; petitions
  - New Jersey State Agricultural Station

MARCH 8

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Arizona

Notices

- Air pollution; ambient air monitoring reference and equivalent methods
- Meeting:
  - Administrator's Pesticide Policy Advisory Committee
- Pesticide chemicals, etc.; petitions:
  - ICI United States, Inc.
- Pesticides, specific exemptions and experimental use permits:
  - Dow Chemical; chlorphyrifos on cotton

MARCH 9

Rules

- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - Sodium chlorate

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Massachusetts
- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - Dinoseb
- Toxic substances:
  - Inventory reporting and general provisions

Notices

- Water pollution control; discharge of pollutants
  - Minnesota and Wisconsin; extension of comment period

MARCH 10

Proposed Rules

- Administrative practices and procedures:
  - Public participation in agency proceedings; financial assistance; extension of time
- Air quality implementation plans; various States, etc.:
  - California (4 documents) 13307

Notices

- Pesticide products, minor use registration; national list of priority needs
- Pesticides; specific exemptions and experimental use permits
  - Interior Department

MARCH 11

Proposed Rules

- Air pollution; standards of performance new stationary sources:
  - Grain elevators; extension of time
- Air programs; energy-related authority
  - New Hampshire

Notices

- Meetings:
  - State-Federal Water Programs Advisory Committee
- Pesticide applicator certification; State plans
  - District of Columbia
- Pesticide programs:
  - Classification of restricted use pesticides; intent to develop regulation
  - Registration of pesticide products containing sodium arsenite; cancellation
- Pesticides, specific exemptions and experimental use permits:
  - Mobil Chemical Co. & Stauffer Chemical Co.
  - Stauffer Chemical Co.
- Records, health and safety studies, and notices of substantial risk under Toxic Substances Control Act; intent to develop regulations and guidance
- Waste, solid treatment, management, etc.:
  - Grand Strand Region, S.C.

MARCH 14

Rules

- Air quality implementation plans; various States, etc.:
  - New Jersey

Proposed Rules

- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - Bacillus thuringiansis, Berliner
  - Inert ingredients in pesticide formulations
- Water pollution control:
  - Pretreatment standards for existing and new sources; hearings

Notices

- Pesticide programs; Federal Insecticide, Fungicide, and Rodenticide Act:
  - Certification, commercial and private applicators; State plans, submission and approval
  - Experimental use permits (2 documents) 13860
- Water pollution control; discharge of pollutants:
  - Minnesota and Wisconsin; extension of comment period; correction

MARCH 15

Proposed Rules

- Air quality implementation plans:
  - Vapor recovery; gasoline stations, stage II; hearing

MARCH 16

Notices

- Meetings:
  - Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel
  - Ad Hoc Study Group on Recombinant DNA Activities

MARCH 17

Rules

- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - Thiophanate-Methyl

MARCH 18

Proposed Rules

- Marine sanitation device standards:
  - Minnesota

Notices

- Meetings:
  - Environmental Health Advisory Committee Study Group on Mutagenicity Testing
- Pesticide chemicals; tolerance, exemptions, etc.; petitions:
  - Shell Chemical Co.
- Pesticide registration; data to be considered in support of applications (2 documents)

MARCH 21

Rules

- Noise abatement programs:
  - Transportation equipment; trucks, medium and heavy; extension of comment time
- Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.:
  - Aldicarb

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Arizona
  - California
  - Texas
- Vapor recovery; gasoline stations, Stage II; technical seminar and public hearing

Notices

- Pesticide programs:
  - Filing of pesticide petitions
  - Chlorofluorocarbons in aerosol products
- Pesticides; specific exemptions and experimental use permits:
  - U.S. Borax Research Corp.

MARCH 22

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Missouri
- Radiation protection standards, environmental, for radioactive waste; public workshop
- Toxic substances:
  - Inventory reporting and general provisions; meeting

Notices

- Air quality implementation plans; various States:
  - Kentucky
- Environmental statements, availability, etc.:
  - Federal agency actions from January 1, 1977 to January 31, 1977

MARCH 23

Rules

- Water pollution; effluent guidelines for certain point source categories:
  - Leather tanning and finishing
  - Petroleum refining
  - Steam electric power generating

Notices

- Meetings:
  - Lead, National Ambient Air Quality Standard
  - Solid Waste Management Regions; guidelines for identification
  - Pesticide chemicals, etc.' petitions:
  - Ciba-Geigy Co.
- Water quality; safe drinking water; intended determinations:
  - Fresno County, Calif.

MARCH 24

Proposed Rules

- Air quality implementation plans; various States etc.:
  - California

MARCH 25

Rules

- Air quality implementation plans; various States, etc.:
  - Missouri
  - Nebraska
- Water pollution; effluent guidelines for certain point source categories:
  - Fertilizer manufacturing

Notices

- Air pollution; ambient air monitoring reference and equivalent methods
- Ocean dumping, reconvening public hearing on application of USAF for permit to incinerate herbicide orange at sea

MARCH 28

Rules

- Air pollution control, new motor vehicles and engines:
  - Technical and editorial changes

Proposed Rules

- Air quality implementation plans; various States, etc.:
  - Virginia

Notices

- Advisory committees; review
- Pesticide applicator certifications; State plans:
  - Louisiana

MARCH 29

Notices

- Pesticide programs:
  - Pesticide product containing new active ingredient; receipt of application
- Pesticide registration; applications

MARCH 30

Rules

- Air pollutants, hazardous; National emission standards:
  - Region V; address change
  - Wisconsin, authority delegation
- Air pollution; standards of performance for new stationary sources:
  - Region V; address change
  - Wisconsin; authority delegation
- Grants, State and local assistance:
  - Subagreements; interim regulations; effective date postponed

Notices

- Air pollutants, hazardous; National emission standards; standards of performance for new stationary sources:
  - Wisconsin; authority delegation
- Oklahoma; determination of primary enforcement authority
- Pesticide programs:
  - Safrole product; cancellation of registration

Announcing the Environmental Quality Award Competition

The battle against pollution needs help at all levels of society if it is to be won. Much of the clean-up now underway began as a result of action at the grass roots level. In 1974 EPA realized that these efforts deserve recognition so the annual Environmental Quality Awards Program was founded. The purpose of the Environmental Quality Awards is to single out individuals who have made a significant contribution in the field of environmental quality. Nominations are now open for this year's award. All nominations must be received by June 1. We encourage you to nominate worthwhile individuals who are deserving of this award.

CRITERIA:

1. All nominees must be cited in the same state in which they did the work. They do not have to be residents of the state.
2. They must be nominated for work done between May 15th of the previous year and this coming May 15th.
3. Nominations must include a description of specific work done by the nominee. This should be documented with testimonials, news clippings, and other verifiable evidence.
4. All four sections of the nomination form must be completed in order for the nomination to be considered.
5. Materials submitted as evidence for Section 3 of the nomination form will *not* be returned.
6. Previous years' winners are *not* eligible for another award.
7. Individuals previously nominated must be resubmitted to be considered for an award this year. This applies only to non-winners, of course!
8. Applications must be posted to Environmental Quality Awards, Office of Public Affairs, U.S. EPA, 230 S. Dearborn, Chicago, IL 60604 no later than June 1.

FOR FURTHER INFORMATION CONTACT:
OFFICE OF PUBLIC AFFAIRS, U.S. EPA
230 SOUTH DEARBORN
CHICAGO, ILLINOIS 60604 (312) 353-2072

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PRINT OR TYPE

1. Submitted by ______________________________ Date: ______________
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City: ______________ State: ______________ Zip: ______________
2. Full name of nominee: ______________________________
Address: ______________________________ Phone: ______________
City: ______________ State: ______________ Zip: ______________

Group or Affiliation: ______________________________

3. Description of specific work done by nominee: (Please document this section with testimonials, news clippings, and other verifiable evidence.) Additional pages may be used. ______________________________

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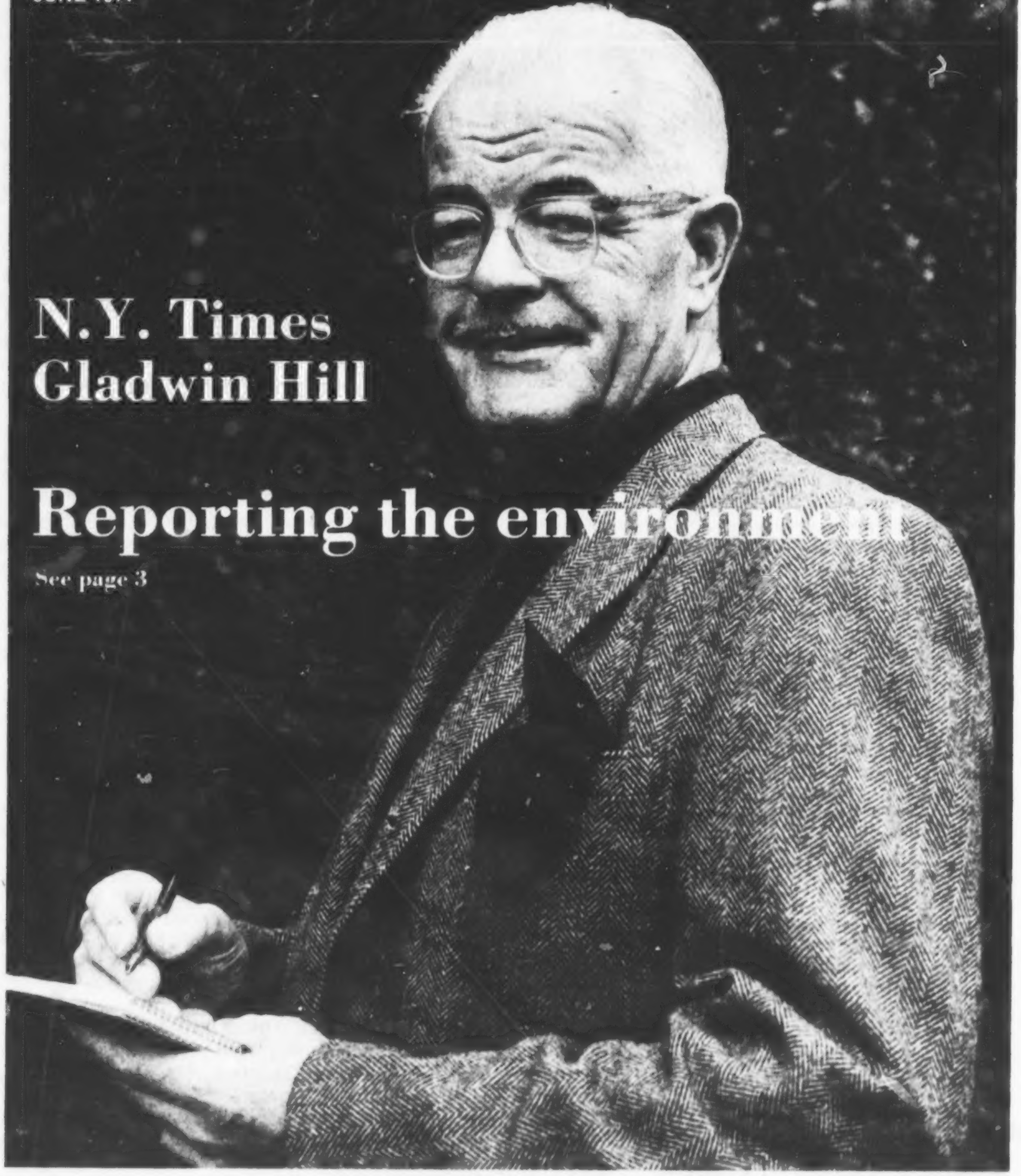
Environment
Midwest

JUNE 1977



N.Y. Times
Gladwin Hill

Reporting the environment

See page 3

6.1

Administrator, Region V

June 5

World Environment Day

George Alexander, Jr.

Pollution knows no international boundaries. Its malignant tentacles spread insidiously across borders in waters and prevailing winds. Canadians drink waters contaminated by pesticides applied by U.S. farmers and North Americans drink milk contaminated by radioactive fallout from Chinese atom bomb tests. And so on, ad infinitum.

In recognition of this problem and in response to a recommendation of the 1972 United Nations Conference on the Human Environment in Stockholm, the U.N. General Assembly in 1972 designated June 5 as World Environment Day and urged governments and the organizations of the U.N. system "to undertake on that day every year worldwide activities reaffirming their concern for the preservation and enhancement of the environment . . ."

This year, EPA is developing an agency-wide program to commemorate World Environment Day. EPA is being joined in the commemoration by the State Department, the Council on Environmental Quality, and a number of environmental, youth and civic groups.

In Washington, EPA and the Department of State have scheduled a program for 2-4 p.m., Wednesday, June 1, at the Department of State. About 400 participants are being invited, including the Ambassadors and other members of the Washington diplomatic corps, environmental groups, selected officials from other Federal agencies, and members of the press.

In addition to EPA Administrator Douglas Costle, the speakers will be Patsy Mink, Assistant Secretary for Oceans and International Environmental and Scientific Affairs, Department of State, and Charles Warren, Chairman of the CEQ. The program will include a short speech from each participant and then questions from the audience to the speakers sitting as a panel.

EPA Administrator Costle is scheduled to appear on the PBS-TV MacNeil-Lehrer Report, to be taped the weeks of May 20-June 3, to discuss the environmental problems that confront the United States and the world with Dr. Mostafa K. Tolba, executive director of the U.N. Environment Program.

Region V has planned a number of activities for World Environment Day, June 5. I am sending letters to local environmental groups calling attention to World Environment Day and inviting them to join in observance of the day.

The EPA research vessel **Roger R. Simons** will be docked at Navy Pier and EPA will sponsor an open house for citizens and have a brochure and slide show available.

In a related matter of international significance, EPA will be serving this year as the lead U.S. Federal agency in the conduct of a review of progress made during the first five years of the U.S.-Canadian Great Lakes Water Quality Agreement.

The historic agreement — signed by both Governments in Ottawa in 1972 — covers actions by both countries to halt environmental damage to the largest freshwater resource in the world.

A series of four open public meetings to gather views, comments, concerns and criticisms from the public have been scheduled for June. Great Lakes clean-up programs covered under the Agreement include — clean-up of municipal and industrial discharges, waste from vessels, dredge operations, phosphorus loadings, and discharges from non-point sources of pollution.

The public meetings have been scheduled as follows: June 3, 1977 — Duluth, Minn., Duluth Radisson Hotel, Great Hall, 5th Avenue West and Superior Streets; June 6 — Chicago, Ill., Pick Congress Hotel, Florentine Room, Congress Street and Michigan Avenue; June 7 — Detroit, Mich., Detroit Cadillac Hotel, Woodward Room, 1114 Washington Blvd.; June 14 — Rochester, N.Y., Americana Rochester, 70 State Street. All public meetings will begin at 10 a.m.

The Agreement specifies that during the fifth year of its operation the two Governments will review progress and assess the effectiveness of both countries' actions in moving toward the goals set forth in the Agreement.

In order to conduct the technical phase of its review the United States has established a Senior Review Group, chaired by Barbara Blum, EPA Deputy Administrator, and made up of senior staff members from all involved American Federal Agencies and Great Lake State governments. Members of the Senior Review Group will participate in the public meetings.

Deputy Administrator Blum's group will report its recommendations to an interagency team headed by Deputy Assistant Secretary of State Richard D. Vine, which will carry on talks with Canadian Government representatives leading to the joint evaluations of the first five years of the Water Quality Agreement.

Ben Kaufman

Quincy Dadisman

Bill Diem

Journalists assess environment's future

By William G. Omohundro

(The late Will Rogers said: "All I know is just what I read in the papers." Most of us hope we know at least a little more than this, but we still rely on our newspapers to keep us informed from day to day of what's happening in the world. This makes the journalist a very influential person indeed. And environmental journalists are no exception. That's why we've decided to take several pages of this month's edition of **Environment Midwest** *and devote them to telling you something about the men and women who write the environmental stories that appear in your newspapers.*

Some are "old hands" who have been writing stories about the environment for 10 years or more. Others are relative newcomers, but all are dedicated to giving their readers the facts about environmental problems. All but one of the journalists included here are from EPA Region V. We found their stories interesting and impressive, and we hope you will too. Our only regret is that we don't have more space. —The Editor)

Gladwin Hill, *New York Times* national environmental correspondent since 1969, is not hesitant to express his opinion of the significance of the environmental movement.

"I think the 'environment movement' that exploded in the late '60's and early '70's is probably the most extensive and profound event to hit the world since that Industrial Revolution of two centuries ago," said the Boston-born Harvard graduate.

"Indeed," he added, "following Newton's law of action and reaction, the Environmental Revolution can be viewed as the response to the Industrial Revolution. For generations we were completely preoccupied with mechanization, mass production and technology, myopically ignoring the side-effects, which suddently began overwhelming us, in the form of air, water and chemical pollution, horrendous abuses in land use, insane consumption of non-renewable resources, cancerous rampant growth, the global population bomb, etc.

"People suddenly became aware of these outrages and imbalances and the remedying of them is leading to nothing less than the embracement of an entire new ethic — a tacit rejection of materialism in favor of a new scale of aesthetic and artistic and spiritual satisfactions . . . not to mention the forestalling of human extinction by destruction of our ecosystem. It will take some time for the slow thinkers and vested interests to comprehend this, but the evolution is inexorable. It's a bell that can't be unrung."

Some of the most outstanding environmental reporters in the nation work within EPA's six-state Region V which consists of Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin. Region V contains four out of the five Great Lakes which are a precious reservoir containing one-fifth of all the fresh water in the world.

The 50 million people that live, work and play in Region V produce about 25 percent of the nation's GNP. The resources of the Region, both natural and developed, are awesome. It's a major world center of agriculture, manufacturing, commerce, education, outdoor recreation, etc. Environmental journalists in Region V have a lot to write about — and they do. What follows is their story.

Casey Bukro

ILLINOIS

Casey Bukro was named environment editor of the *Chicago Tribune* on February 4, 1970. The appointment came after Bukro had specialized for three years in environmental affairs. In 1967, he co-authored *The Tribune's* award-winning "Save Our Lake" series of articles which focused nationwide attention on the pollution of the Great Lakes, particularly Lake Michigan.

A native Chicagoan with two degrees from Northwestern University, Bukro believes environmental reporters are "the renaissance men and women of journalism."

"They write about pivotal times in our history. They were the first to emphasize that everything is related. They searched for an overview that identifies root causes of complex problems, and the alternative choices open to people in a democratic society," he said.

"The title may fade, but the kind of work they do will not. Already, environmental reporting has changed vastly since the beginning of the so-called 'environmental decade' in 1970. We cover energy issues now too.

Bruce Ingersoll, three-times a Pulitzer Prize nominee, joined the *Chicago Sun-Times* in April of 1970 as environmental reporter. Since joining the *Sun-Times* staff, he has done investigatory stories on the U.S. Army Corps of Engineers, the Illinois Commerce Commission and the railroad industry, the Interior Department and the oil industry, the Chicago Park District, and former Illinois Governor Dan Walker's political fund-raising operations.

Since last January, Bruce has been writing an outdoors column for the sports pages.

Harlan Draeger, who intermittently covers environmental and energy stories for the *Chicago Daily News*, says: "Newspapers, at least recently, are only interested in short-run fads. With a few exceptions such as the *New York Times* and the *Milwaukee Journal* most papers don't pay serious and consistent attention to the issues. Most general circulation dailies have abrogated their responsibilities. Television has a lot of built-in limitations in covering complex issues.

"Papers are too caught up in the day-to-day, short term stuff to worry about environment. Environmental issues won't go away though. They have real long-term importance. What newspapers are looking for is a consumer-oriented mass slaying for page one."

INDIANA

"If we don't write environmental stories now, there won't **be** a hundred years from now," said **Janet Keck**, *Hammond Times* environment, industry and labor writer for the past three years.

Keck sees the energy-environment question as the big story of the day. "Can we protect the environment while we are exploiting the energy resources such as coal?" she asks.

"I have never been hampered by my editors in any way as far as policy is concerned. This includes labor and industry stories too," she noted. "The editors expect stories to be well-founded factually. Nobody has told me to change a story for reasons of policy," she added.

Lou Wein, editorial writer for the *Fort Wayne Journal-Gazette* since 1974, writes mainly about environment, energy (including nuclear power), agriculture, local government and national economics. In 1976, he won an EPA Environmental Quality Award for his role in making Fort Wayne citizens more environmentally aware.

Wein, a former editor of the Westchester County, New York, weekly *Yorktowner*, says he lost his job when the paper's publisher backed down in a confrontation with a big condominium developer.

"That battle was one of many I fought with Westchester real estate interests and resulted in two $5 million libel suits against me — both successfully defended and defeated," he notes.

Another scuffle found me confronting Consolidated Edison's nuclear power development on the Hudson River at Indian Point. My weekly was the first paper in New York to disclose that the power plants were built on an active earthquake fault," Wein added.

MICHIGAN

Another EPA Environmental Quality Award winner, **Roy Howard Beck**, 28, of the *Grand Rapids Press*, thinks environmentalists must get more involved in the social and economic facets of their issues. "Although there is much evidence that society as a whole is better off when environmentalists achieve their goals, some persons suffer disproportionately," says the University of Missouri School of Journalism graduate.

"Unless these persons are included as major parts of planning," he says, "the environment could suffer greatly in the next few years as energy becomes the nation's prevalent concern. For instance, in the future, the Michigan Bottle Bill fight will have to be fought in other states in a different way.

"Persons who truly are expected to lose jobs will have to be provided for in the bill. The Sierra Club must offer some suggestions for helping loggers when they strive for expansion of the Redwoods park, for instance."

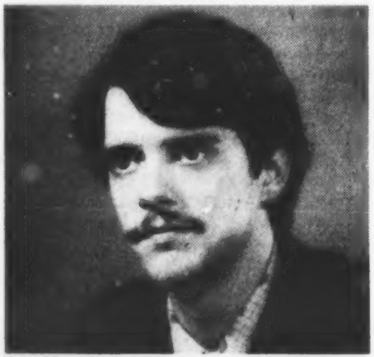
Oregon-born **George Neavoll**, 38, editorial writer for *Detroit Free Press* since April of 1975, believes the future of the environmental movement is bright, "especially with a pair of genuine conservationists in the White House and at the head of the Department of Interior."

"The depth of citizen commitment to environmental issues was clearly shown by the 1976 bottle bill referendum victory in Michigan, and by grassroots involvement in other conservation battles across the Midwest and the nation," Neavoll points out. "The tide of letters to the Detroit Free Press commenting on our environmental positions runs probably 10-1 in our favor," he adds.

Neavoll believes his role in the environmental movement is an important one. "An editorial writer on a major metropolitan newspaper today is on the cutting edge of the fight for a clean and healthful environment. He has the opportunity to lead his readers to assume the responsibility of safeguarding **THEIR** clean skies, waters, forests, open spaces and wildlife," he notes.

"The environmental movement is in for stormy weather in the future, unless citizens increase their support for environmental goals and make that support known to governmental leaders," says **David Lynch**, editor of Michigan *Earth Beat*, the Michigan Student Environmental Confederation's bi-weekly publication. The MSEC is a statewide citizen's lobbying group.

The 24-year-old Birmingham, Michigan, native says his role as an environmental reporter involves detailing the political forces at work on the shaping of environmental policy in the Michigan legislature. "Politicians are often reluctant or unwilling to vote against the wishes of industry, and when this happens, my job is to let the public know."


David Lynch

Roy Howard Beck

MINNESOTA

Don Boxmeyer has been environmental reporter for the *St. Paul Pioneer Press* for five years. He spends full time on his environmental beat and says there is a lot of competition in environmental journalism in the Minneapolis-St. Paul area.

In the past five years he has spent a great deal of time covering the Reserve Mining Case. He says the Reserve story is a classic environmental story. "It's a business, medical, scientific, economic, political, social and pollution story," he adds.

The story has been going on for years and promises to continue. Even though an on-land disposal site has been selected for depositing the Reserve wastes that are presently going into Lake Superior at Silver Bay, Boxmeyer says there is growing concern that Reserve will not be able to get permits for its air emissions without significant variances. "The state does not feel that Reserve is showing enough aggressiveness in solving their problems," he says.

Jim Adams, energy-environment reporter for the *Minneapolis Star*, is a relative newcomer to the field, having started his present assignment in October of 1976. His job includes keeping track of all energy-environment related legislation, the Reserve Mining Case, toxic wastes, spills, the Minneapolis Pollution Control Division, the Minnesota Pollution Control Agency, and the Metro Council.

The Pennsylvania native spent the two years before taking his present assignment on the business desk.

"One of the main issues that I have been covering recently is the controversy between farmers and the electric power interests," Adams says. Farmers whose land is in the path of electric power lines have objected to locating transmission structures on their property.

Duluth News Tribune and Herald outdoor editor **Jim Blubaugh** has been doing environmentally oriented stories for about five years since he started his present assignment. He has done columns on such subjects as the Reserve Mining Case, Lake Superior pollution, the copper-nickel mining controversy over the minerals in the Duluth Gabro running to the Boundary Waters Canoe Area, and PCBs.

Blubaugh sees a strong future for environmental reporters in his locale. "More and more problems keep cropping up," he says. "In the Duluth area, we have a lot of lands left to be developed and the fights are ahead."

Blubaugh is pleased with his assignment. "I would never change. It's probably the most fascinating experience of my life."

OHIO

Warren Tribune Chronicle reporter **Richard S. Starnes**, 28, flew helicopter gunships in Vietnam in 1968-69 and returned home in 1970 to begin journalism studies at George Washington University in his native Washington, D.C.

In March of 1976, Starnes took over the *Tribune's* environmental reporting duties. "The paper's circulation area is heavily industrial, and timely, accurate reporting of environmental issues is a fundamental part of the news coverage we offer our readers," he says.

His most recent environmental assignments have dealt with the dispute over pollution control in the Mahoning Valley. "*The Tribune* was first with the story reporting the decision by former U.S. EPA Administrator Russell Train to give Mahoning Valley steel producers an eased timetable to meet Public Law 92-500 requirements for water pollution abatement."

Stories on energy and the environment as well as occasional scientific research activities fill the work days of **Jim Babcock**, *Dayton Journal Herald* staff writer. Babcock is a veteran in the field of environmental reporting having entered the field in 1970. In 1973, he received his energy reporting assignment.

The Ohio State Journalism School graduate says his newspaper manages to do "a fair number of stories regarding environmental quality problems — particularly those problems involving air quality, which is very well — and honestly, I believe — watched over around here by the Dayton Regional Air Pollution Control Agency."

Columbus Dispatch special assignment reporter **David Lore**, 36, has been writing on environmental, energy and utility regulation issues since 1973. The Bowling Green State University graduate also reports on prisons and youth corrections and writes a weekly public affairs column.

William R. Diem, 54, has been environment-energy reporter for the *Cleveland Plain Dealer* since 1975. "I think there will be a swing away from environmental concerns in the years ahead as the energy crunch grows," he says. "I hope the pendulum doesn't swing too far. We have already seen in Cleveland a falloff in clean air concern when jobs are perceived to be at stake."

Diem sees his role in this as simply reporting what is going on. "I try not to take a position as an advocate, but instead to be objective."

He doesn't think his perceptions of environmental stories differ from those of his editors and publisher. "They pretty much take what I give them," he adds.

"I got into environmental writing originally because I thought it was a damned shame what was happening to Lake Erie — a great resource gone to pot. It is getting better now, however."

At 29, **Steve Pollick**, environmental specialist for the *Toledo Blade* is one of the "old hands" having entered the field in 1971.

"About 50 percent of my time is devoted to 'environmental' stories, which has come to include most energy-related and natural resources stories."

Pollick has worked on fish kills and oil spills; efforts by industry to control air and water pollution; land-use problems; federal, state and local government activities in pollution control and environmental cleanup; natural gas shortage-dilemna; solar energy; a program to destroy the pesticide Kepone, developed in Toledo; costal zone management and other problems and activities along Lake Erie and Maumee Bay at Toledo; development of state and local parks, metroparks, wildlife refuges and natural preserves, etc.

Cincinnati Enquirer environment reporter **Ben Kaufman**, 38, has had his job since 1975. Kaufman has been religion reporter since 1969 when he joined the *Enquirer* staff and is a former assistant city editor.

He has also worked for the *Minneapolis Star*, the *Zambia* (Africa) *Times* and the *Zambia News*, United Press International London Bureau, the *Rome* (Italy) *Daily American*, and the *Geneva* (Switzerland) *Weekly Tribune*.

Bob Modic is environmental reporter for the *Cleveland Press*. He recently succeeded Betty Klaric who had been environmental reporter for the *Press* for the past several years. "I have had an interest in pollution, conservation and similar matters so I was pleased when Betty Klaric, now an assistant city editor, suggested I succeed her as environmental reporter," Modic says.

A *Press* reporter for more than 25 years, he was assigned this year to cover the environment, energy and the public utilities. "My assumption is that the public concern and action about protecting and improving the environment is just beginning, and that my job will be to try to keep up with reporting about it."

Bob Modic

George Neavoll

WISCONSIN

Paul G. Hayes, 42, has been environmental reporter for the *Milwaukee Journal* since 1969. In 1973, he worked on natural resources policy and energy issues for 10 months as a Leonardo Scholar in the first Leonardo Seminar of the University of Wisconsin at Madison. More recently, he has concentrated on energy reporting.

Hayes is co-author with five other men of "Resources and Decisions" published by Duxbory Press in 1975. He won the Gordon MacQuarrie medal of the Wisconsin Natural Resources Foundation in 1972, the *Journal's* Richard S. Davis award in 1973, and the Westinghouse Science Writing Award of the American Association for the Advancement of Science in 1976.

Milwaukee Sentinel environment reporter **Quincy Dadisman** writes about environmental affairs in general with emphasis on the whole pollution picture, forestry, mining and energy. "A big part of the job is just staying aware of what's happening in the field, a chore that takes a lot of reading."

"The environmental movement has, in some ways, grown fat and complacent in recent years," says Dadisman. "It was more fun, if more illogical, in the early '70s when it still had a lot of missionary zeal. For instance, one group used to solicit funds from soap companies to fight poor land reclamation at the mines, money from an oil company to fight water pollution by soap factories and from mining companies to fight air pollution at the refineries."

"No one in the environmental movement has that kind of imagination — maybe it's plain gall, or even dishonesty — nowadays. Today, organized environmentalists are flirting with what outsiders see as elitism, big brotherism and near paranoia. There's an undercurrent of saving the environment for the few; the environmentalists know what's best for everyone and the big companies are gonna get ya if ya don't watch out."

Special features writer and farm editor **Ray Pagel**, for 35 years a member of the *Green Bay Press-Gazette* staff, writes a Sunday column called "Ecology Review." Pagel says "special features" are primarily science and environmental concerns: water quality, solid wastes, soil conservation, natural beauty, preservation of natural resources, municipal and industrial wastes and nuclear energy.

In 1962, Pagel began covering state and federal hearings and conferences, extending to Lake Michigan-Great Lakes, nuclear plants, and the Wisconsin DNR which he still covers. "Considerable writing has been done on regional development, forestry, and soil and water conservation. I routinely cover the Green Bay Metropolitan Sanitary District and do features on area wastewater treatment, the Fox River, and the Solid Waste Board," he says.

Nieman Fellowship-winner **Whitney Gould** has been environment reporter for the *Madison Capital Times* since 1969. "My job involves the whole gamut of environmental issues from the usual air and water pollution stores, land use and energy to what I think is an equally important area — the urban environment and the quality of life in the city.

"I think it's a mistake for editors to think they've discharged their responsibilities just by having one person on this beat. Reporters on other beats — government, agriculture, etc. — should also be thinkng along environmental lines and asking the right questions about new developments. On our paper, this is very much the case; a kind of environmental consciousness is built into many reporters' modes of operating."

Consultants tackle engineering problems

By William G. Omohundro

Engineering consultants are not a new phenomenon. The Pharoahs, no doubt, used engineering teams to design and supervise construction of the pyramids and to conceive plans for irrigating the Nile Valley.

During the heyday of the Roman Empire, engineers conceived and designed the aqueducts to bring cold, clear water down from the mountains to slake the thirst of Rome, and teams of engineers were dispatched to the North African colonies to irrigate the Sahara.

Today's engineering consultants are still busy designing modes of bringing water to cities and ways to make deserts bloom. But, with man's discoveries of new knowledge about his physical world, new dimensions have been added to the engineering consultant's repertoire of skills.

With electronic calculators in hand and the world's most sophisticated computer systems to back them up, twentieth-century consultants are busy designing literally thousands of facilities that provide for the material needs of mankind. They include water filtration plants, nuclear power plants, ultramodern mass transit systems, factories and industrial processes, hydroelectric dams — and pollution control facilities such as wastewater treatment plants and modern sewer networks.

Pollution control authorities believe that the consulting engineers are an essential ingredient in the environmental protection recipe.

EPA Region V's Deputy Administrator Valdas V. Adamkus, a former consulting engineer, says: "Consulting engineers are key people in any program to clean up the environment because they have the expertise to plan and design viable solutions to the complex problems created by our advanced technology."

Adamkus feels that the consultants were slow to act on environmental problems in the past but since the late 60s they have taken hold of the problems and are offering imaginative solutions.

He acknowledges that money is probably the answer. Like everyone else, consultants work to solve problems that return a profit so it's not surprising that they began to move into the pollution control field in the 1960s and 70s when stringent environmental protection laws were passsed and government and the private sector started putting big money into the development of pollution control facilities and equipment.

Over the past decade, to take advantage of the billions being spent to protect the environment, consultants have beefed up their staffs with environmental specialists. The bigger firms have added environmental divisions and new firms have sprung up catering solely to environmental needs.

The National Environmental Policy Act (NEPA) passed in 1970 required that Environmental Inpact Statements be done on projects built with Federal monies. Thus, a business was provided for consultants capable of doing environmental impact statements.

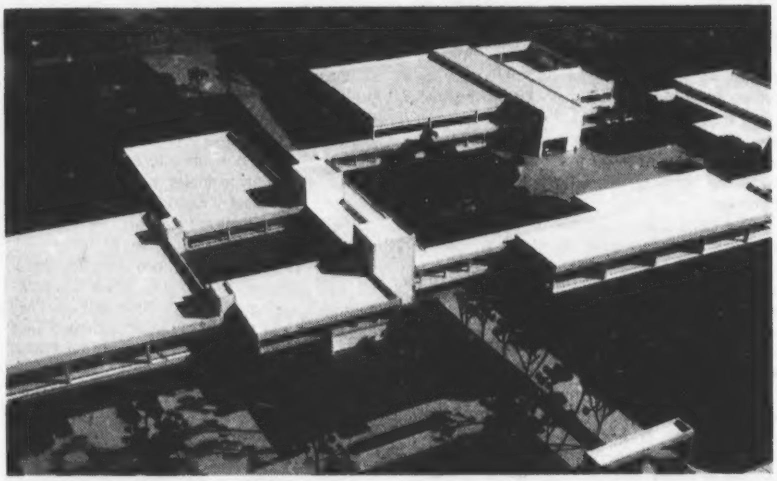


Photo courtesy of Camp Dresser & McKee

In addition, international lending institutions such as the World Bank and the U.S. Agency for International Development now require that environmental assessments be done for all projects which they fund. So, nowadays, a consulting firm planning a dam for construction in Afghanistan or Brazil will have to provide for such an assessment.

In 1970, Congress passed a more stringent Clean Air Act requiring air polluters to significantly reduce their emissions of pollutants to the nation's air. This meant that the owners of factories and power plants would have to spend millions on the design and installation of control equipment to meet air quality standards, another boon for consultants.

Other environmental legislation offering potential sources of business for consultants includes: the Resource Conservation and Recovery Act, the Safe Drinking Water Act, the Toxic Substances Control Act, the Federal Environmental Pesticides Control Act, and the Marine Protection Research and Sanctuaries Act.

But the biggest single pollution control "bonanza" for consulting engineering firms in this country came with the passage of the Federal Water Pollution Control Act Amendments of 1972. In this Act, Congress established a national wastewater permit system which requires all dischargers into the waters of the United States, both public and private, to meet a very stringent timetable for wastewater cleanup. To assist municipalities in cleaning up, they appropriated $18 billion to be spent for the construction of wastewater treatment facilities.

Translated into economic terms, it means that billions of dollars must be spent by both the public and private sectors during the 1970s and 80s just to meet water cleanup requirements.

In a speech last January to the Newcommen Society of North American, Joseph C. Lawler, President and Chairman of the Board of Camp Dresser & McKee Inc., said: "It is evident that there will be no dearth of funds for environmental programs in the foreseeable future, either in the United States or abroad. The fallout from Federal legislation, principally PL 92-500, called the 1972 Amendments to the Water Pollution Control Act, has been substantial and has affected most consulting firms in this country. In addition, there appears to be sufficient funds from international lending agencies and from other sources to fund a substantial amount of overseas work in the near future."

Business Problems

In 1974, EPA auditors conducted interim audits of 41 treatment projects and concluded that, generally, communities did not effectively administer their EPA construction grants, that some facilities were poorly designed and constructed, and that consulting engineers were reaping excessive profits (10 engineering firms' records were audited).

Local agencies that receive EPA grants are required under EPA regulations to hold down excessive profit-taking by consultants. "The objective of negotiations shall be the exercise of sound business judgment and good administrative practice including the determination of a **fair and reasonable profit** based on the firm's assumption of risk and input to total performance and not merely the application of a predetermined percentage factor," according to a simplified version of EPA grant-subagreement regulations.

As the EPA regulation regarding profits for engineering services to grantees states, the agency no longer allows engineering fees based on a percentage of the construction cost. This was a result of the 1974 audits.

In the May, 1976, issue of **Specifying Engineer** magazine, Howard P. Cahill Jr., P.E., Director of EPA's Municipal construction Division in Washington, D.C., was quoted as saying: "One of the biggest difficulties that we ran across with respect to the procurement practices with the engineers was the percentage-of-construction-cost contract. As a philosophy, it's counter-productive."

According to Cahill, also a former consultant, the change in fee arrangements represented a major change in the way consulting engineers were doing business. Before the change, he said, "An engineer finished the plans and specs on a $5 million job and it wouldn't go to construction for three years for one reason or another. When it went to construction it was a $10 million job because of inflation. He's finished the plans and specs three years ago at $5 million, and everybody agreed he'd done a $5 million job. But he's got a tail-end contract and now he wants to double his fee because of inflation. This is just out-and-out escalation without any rationale whatsoever."

CMD's Lawler, in his Newcomen Society speech expressed doubt as to whether his firm could remain as profitable as it had been in the past. "You see — our old friend Uncle Sam is now regulating the profitability of the engineering profession."

"The problem has developed through the activities of the Environmental Protection Agency (EPA). EPA provides Federal grant funds (usually 75 percent) towards the cost of most municipal water pollution control projects. That agency has taken the position that although it is not a party to contracts between municipalities and their consulting engineers, the agency nevertheless has an obligation to see that engineering fees are "fair and reasonable," he said.

"Unfortunately, EPA's notion of fair and reasonable is quite different from that which consulting engineering firms are used to and which they consider fair and reasonable," Lawler continued.

He said the big problem seems to be that EPA has been unable or unwilling to recognize the difference between professional service firms and capital-intensive industry in determining allowable costs and allowable profits for professional services.

"The net result for CDM will probably be that our overall profitability will be cut at least in half, unless something can be done. About 60 percent of our current workload is represented by EPA-controlled projects," he went on.

"I must confess to a certain bitter taste in the mouth resulting from this fast lesson in government economics. The Federal government, in its zeal to produce 'fair and reasonable profits,' has in one fell swoop largely wiped out private enterprise motivation in much of the consulting engineering profession. No longer is the outstanding performer or the super-efficient producer to be rewarded — just the opposite. The least efficient producer will end up receiving more dollars for his product."

"It is indeed frustrating that one can spend an entire career helping to build an organization in which one can take pride, only to find that, in the end, one's own government is working, purposely or not, to tear it down," he said.

Lawler said the problem hits the entire consulting engineering industry and that the industry's professional and trade associations are protesting loudly and at length to all who will listen. He said he is not very optimistic and that CDM "will continue to make the strongest possible efforts to switch as much of our business as possible into non-federally controlled projects."

Some Firms Doing Environmental Work

Of the consulting firms contacted by **Environment Midwest**, some were more open than others in disclosing information about their work. A representative of one large firm said we could have a copy of the company's general brochure but other information was proprietary.

Among the more open companies were Harza Engineering Company and Keifer & Associates, Inc. (formerly Bauer Engineering) of Chicago and Camp Dresser & McKee Inc. of Boston.

The May 20, 1976, issue of *Engineering News-Record* says Harza moved from 29th to 15th in total billings rank in just one year. The company was first in the $25 million to $34.9 million category.

Client Services Representative Lawrence I. Feder says Harza gets business in a number of ways. Feder says that much of the company's business comes from former clients who know the firm and the quality of its work.

"A satisfied customer who knows the company has done good work for him in the past is an excellent source of business," he says.

The company also receives unsolicited inquiries from potential clients who are looking for special design capabilities and know the company by reputation only.

"In addition," Feder says, "we monitor various information sources to see if jobs are mentioned that we want to be considered for."

Further, a number of Federal agencies such as EPA and the Corps of Engineers include the company in their files of qualified engineering companies with information about capabilities which they might need, Feder says. He says the firm has to update these files periodically.

An international firm, Harza does business in Latin America, Africa, the Middle East, and the Far East. A communications room is in constant touch with the company's far-flung projects.

In its *Fourth Annual Review* published last March 28, the company says "environment-related work continued to be the fastest developing area in Harza's spectrum of operations during 1976."

Of the almost 900 employees at Harza, a total of 103 work in the Environmental/Sanitary Engineering Branch. The branch does work in water pollution control, water supply, urban flood control, regional environmental planning, and solid waste disposal

Harza is designing major portions of the Tunnel and Reservoir Plan (TARP) of the Metropolitan Sanitary District of Greater Chicago which is the largest urban drainage and pollution control project ever undertaken.

After more than two years of involvement, Harza reports that it has essentially completed work on the Cincinnati, Ohio, area plan for implementation of Section 203 of the Federal Water Pollution Control Act of 1972.

The Chicago-based firm of Keifer & Associates, Inc. does much of its work in the area of pollution control. A relatively small firm with around 50 professionals, Keifer & Associates has done work on Chicago's TARP project and is designing a sewer network for northwestern Lake County, Illinois, a part of Chicago's suburban fringe.

John F. Yost, Director of Environmental Engineering for Keifer, said the project will eliminate a septic tank problem that now exists in that area.

Keifer also designed and served as resident engineer during construction of the Muskegon County (Michigan) Wastewater Management System, the country's largest wastewater irrigation project. (EPA has over $20 million of Federal monies invested in this project).

In addition to its wastewater management projects, the firm does work in solid waste management, town planning, and water conservation.

Boston-based Camp Dresser & McKee, Inc. is the largest U.S. firm specializing exclusively in environmental engineering and related services. A multinational consulting firm, CDM has some 25 offices in the U.S. and abroad with more than 1,000 employees.

CDM was essentially a New England company until the late 1960s when it was awarded a contract to design a 50-million-gallons-per-day advanced wastewater treatment plant at Salt Creek for the Metropolitan Sanitary District of Greater Chicago. The project was completed in 1976 is reported to be working well

Now called the John E. Egan Plant, the new facility is one of the few major advanced wastewater treatment plants fully operational today.

A separate subsidiary, Camp Dresser & McKee International Inc., has served or is serving 31 clients on six continents on major water supply or wastewater projects in the Far East, the Middle East, Australia, and Latin America.

Other CDM projects in Region V include; a major, three-year operations and maintenance project for the Detroit Water and Sewage Department; a Section 208 study for the Southeast Michigan Council of Governments; environmental monitoring at Wisconsin Electric Power Company's Point Beach Nuclear Plant; and a major thermal effects study for Wisconsin Power & Light Company at their Rock River generating station.

All three companies are made up of individual professionals with impressive credentials, doctorates, masters degrees and professional engineering licenses abound. This seems to be typical of most consulting firms.

But, as one consulting engineer said: "It's not just technical ability but technical ability plus a lot of imagination that gives us solutions to our environmental problems."

Safe drinking water requires vigilance

By William G. Omohundro

If a competition were held among the nations of the world for the safest drinking water supplies, the United States would be among the big winners.

But that doesn't mean the country can rest on its laurels because microbes and the toxic waste products of modern technology will continue to threaten the safety of the water we consume.

Vigilance is the watchword, and EPA is using the authority delegated to it by the Safe Drinking Water Act of 1974 to see that action is taken to maintain the integrity of our water supplies.

Joe Harrison, Chief of Region V's Water Supply Branch, says: "I think the Safe Drinking Water Act of 1974 has given EPA a very definite conviction toward the goal of insuring that the public has safe drinking water."

To do a complete job of providing assurance of reliable water systems and safe drinking water is really a mammoth task. "We estimate that to perform annual or biennial sanitary surveys and routine chemical testing at each of the estimated 95,000 public water systems in Region V would require annual state budgets totalling about $15 million," said Harrison.

"By way of comparison," he said, "Region V programs currently cover about 5,000 water systems and state budgets currently total about $5 million."

Harrison said EPA, from Administrator Douglas Costle down, is keenly aware of the situation. "We know that all problems cannot be corrected in a day or even in a decade in some places and activities toward the accomplishment of our goal will have to be prioritized and will be dependent on available resources."

"We urge that the highest priority be given to matters of public health and that the worst problems be attacked first," he added. "We plan to use public awareness and education and technical assistance as primary means for obtaining compliance with drinking water standards. We therefore have a strong desire to work through state water supply programs and to build on these historic operations."

Harrison said EPA's goal is to see the states assume primary enforcement authority through the enactment of enforceable legislation or the development of regulations designed to protect their water supplies.

In Region V, five out of six states — Ohio, Illinois, Michigan, Wisconsin and Minnesota — have signified their intent to seek primary enforcement responsibility for public water system supervision.

The state of Indiana has officially stated that it will *not* immediately accept primacy, and it has not accepted 1976 and 1977 program grant funds, according to Harrison.

"Indiana feels the regulations and grant offers are not realistic," he said. "So we have worked with their State Board of Health to develop a strategy for implementation of a public water system program. Twelve additional positions and $350,000 are needed to implement a minimum primacy program for the 1,000 community water systems in that one State."

Harrison said EPA's duties will include public information programs, engineering evaluations of water supply facilities and operations, implementation of a data processing system, certification of laboratories, processing of reports, processing variances and exemptions requests, review of duties delegated to the State, and enforcement actions for violations.

"The five states that have said they would accept primacy have been using program grant funds to build up their programs to meet Federal requirements," he said.

. . . Assurances of safe drinking water is a mammoth task . . .

Each of these states, Harrison went on, must enact further legislation and/or rules before it can apply for primacy. "The timing to complete these changes is very indefinite because various approvals are necessary," he added.

Illinois is not likely to attain authority for primary enforcement responsibility before late 1977 or 1978, according to Harrison. "Jurisdiction over public water systems in the state is split between two co-equal agencies — the Illinois Environmental Protection Agency and the Illinois Department of Public Health," he said.

Harrison said Illinois introduced statute changes to its legislature in April and hopes for enactment by June. Proposed rule changes for maximum contaminant levels, public notification, and variances will then be introduced to the Illinois Pollution Control Board.

"Michigan has written a new State "Safe Drinking Water Act" that covers all elements necessary for accepting primacy, and it has been completely passed by the legislature," said the EPA program chief. "The state must now promulgate rules for public notification and for record keeping and reporting. If the rules are enacted in the fall of 1977 as expected, Michigan will then apply for primary enforcement responsibility."

Minnesota has drafted a new State "Safe Drinking Water Act" that has been passed by the legislature. The state must now promulgate rules under the authority granted in the law.

Ohio has contracted for a study of statutory and regulatory authorities. Plans call for submission of necessary and legislative changes to the 1977 state legislative session. "If it gets passed, Ohio should be able to apply for primacy by next fall."

Additional legislative authority may not be necessary in Wisconsin. "Last January, the Governor introduced his budget bill which specifically allows the Wisconsin Department of Natural Resources to establish a safe drinking water program no less stringent than the requirements of the Safe Drinking Water Act, but referred the question of whether the State should accept primacy to the DNR Board for a decision."

On March 18, the DNR Board authorized the Department to seek interim primacy. No funding increases from State coffers are allowed, and unless requirements for non-community systems change, Wisconsin will relinquish authority for primary enforcement responsibility in two years.

"Rule changes must now be adopted and Wisconsin will likely apply for primacy near the end of the 1977 calendar year," Harrison noted.

Turning to the second major aspect of the Safe Drinking Water Act, Harrison said the agency is charged with protecting underground sources of drinking water. "To that end, we have initiated an Underground Injection Control Program (UIC), and regulations for this program are currently undergoing what are hoped to be final revisions," he said.

At this time, he noted, it is apparent that four Region V States will be listed as needing UIC programs. He said three of the four States (Ohio, Michigan, and Illinois) have extensive existing injection control programs and have tentatively indicated their intent to seek primary enforcement responsibility for the UIC program.

Indiana, the fourth State to be listed, has indicated that primacy will not be sought and thus the responsibility for implementing a UIC program will fall to Region V.

It is difficult for the States to make firm commitments regarding the assumption of primary enforcement responsibility for the UIC program since the proposed UIC regulations, listing of States, and allocations are not finalized, he said.

"Injection control programs for Ohio, Michigan, and Illinois are well conceived and it is hoped that only minor modifications will be required once final regulations are published. With four States tentatively listed in the top 11 of the 18 listed States, Region V is the second most active Region with regard to underground injection."

"Indiana feels the regulations . . . are not realistic . . ."

Indiana's existing injection control programs are not reputed to be as comprehensive as those in the other listed States and thus EPA's task of implementing the regulations will be substantial. "After regulations and allocations are finalized," Harrison said, "a meeting will be scheduled to discuss implementation of a UIC program by EPA."

Proposed regulations would require re-permitting of 4,000 oil and gas related injection wells in Indiana over the next five years. Resources for this job constitute the bulk of 28 positions Region V would need to implement the UIC primacy program in Indiana.

"Existing oil and gas injection wells are not posing a significant threat to the quality of underground sources of drinking water," he said, "and Region V feels the UIC regulations should be made more flexible before promulgation."

Harrison said if final regulations and/or allocations should result in one of the other listed States in addition to Indiana not assuming primacy, it would be very difficult for the Region to staff and administer a viable UIC program.

"The Region has been working with headquarters personnel to help formulate a pits, ponds and lagoons survey which will provide adequate direction for future ground water protection efforts," he said. "It is felt the PP&L's may be the major source of ground water pollution and all Region V States have expressed an interest in getting the survey underway."

"We feel that the survey must be well planned to provide States with necessary guidance for conducting the survey. It is imperative that the survey be approached from the standpoint of gathering information pertaining to the total ground water pollution problem and not turn out to be an aimless data collection exercise."

Schedule for Implementation of Safe Drinking Water Act

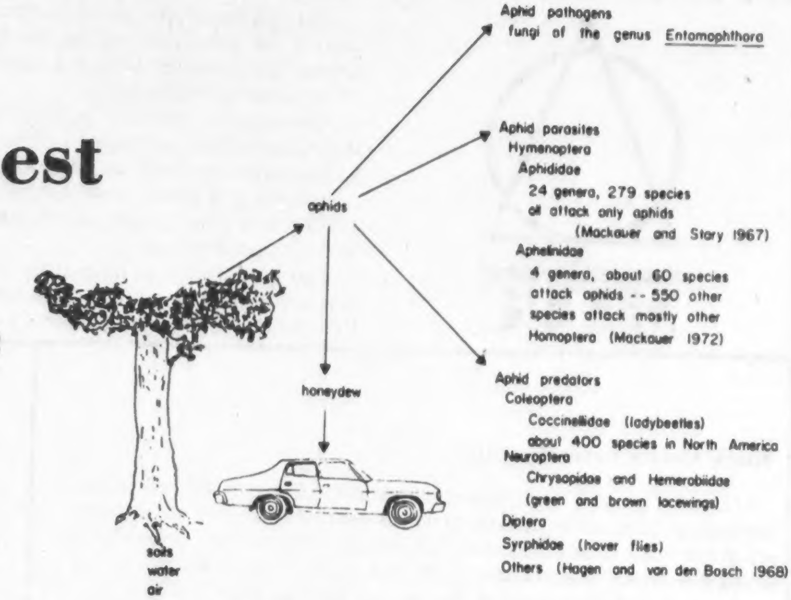
December 1975	**National Interim Primary Drinking Water Regulations Promulgated (Effective in 18 months)**
January 1976	**State Program Grant Regulations and Implementation Regulations Promulgated**
July 1976	**Radionuclides — National Primary Drinking Water Regulations Promulgated (Effective at Time of NIPDWR)**
August 1976	**State UIC Program and Grant Regulations Proposed**
April 1977	**(1) Annual Report to Congress on Activities** **(2) National Academy of Sciences Study to Congress** **(3) Publish Report on NAS Study in Federal Register**
May 1977	**Propose Revised UIC Program and State UIC Grant Regulations**
June 1977	**(1) National Interim Primary Drinking Water Regulations Effective** **(2) Propose Secondary Drinking Water Regulations** **(3) List States Designated as Needing UIC Programs and Allocations**
July 1977	**Propose National Revised Primary Drinking Water Regulations**
August 1977	**Grants Available for Pits, Ponds, and Lagoons Survey** **Interim Report to Congress on Rural Water Survey**
September 1977	**(1) Promulgate National Secondary Drinking Water Regulations** **(2) States Apply for FY'78 Program Grants**
January 1978	**(1) Promulgate National Revised Primary Drinking Water Regulations**
March 1978	**States Must Disclose Intent and Apply for UIC Primacy.**
April 1978	**(1) Final Report to Congress on Rural Water Survey.** **(2) Annual Report to Congress on Activities**
May 1978	**Grants Available to States for UIC Program**
October 1978	**States Apply for FY'79 Program Grants**
December 1978	**Initial Review of Variances and Exemptions Issued by States**
April 1979	**Annual Report to Congress on Activities**
July 1979	**National Revised Primary Drinking Water Regulations Effective**
August 1979	**Completion of Pits, Ponds, and Lagoons Survey by State**

People

Deputy Administrator **Barbara Blum** visited Region V offices while making the rounds to the EPA regions — after meeting briefly with Regional officials to discuss Agency priorities. She spent the day touring program offices to personally meet employees . . . **Donald Ross Stevens**, reporter for the *Louisville Courier-Journal*, has been interviewing officials and gathering research at the Regional office and Central Laboratory for an upcoming feature on the Ohio River . . . Wisconsin Environmental Decade's **Peter Anderson** has sued the Wisconsin Bar Association for its accusation that he is unauthorized to practice law — Anderson, who is not an attorney, has been called an effective "consumer gadfly" and a "persuasive champion of environmental protection" . . . A Michigan Farm Bureau Services employee, **Mike Creighton**, says he lost his job because he took a cup of dust from the plant where he worked to see if it was tainted with PBBS — laboratory tests showed PBBS in the sample . . . **Douglas Costle**, EPA Administrator, and two former EPA chiefs, **Russell Train** and **William Ruckelshaus**, teamed up for the first time in Chicago May 19 to talk about water quality and the feasibility of charging water polluters. **Walter Romanek**, Chief of the Legal Support Section of Region V's Enforcement Division, as of July 1 will be Director of Coal Utilization for the Federal Energy Administration. **Tom Beehan**, former Administrative Officer for the Tri-State Air Committee, is now Executive Director of Little Miami, Inc., Cincinnati.

The crawlies

Garden pest control overdone


Aphid pathogens
fungi of the genus Entomophthora
Aphid parasites
Hymenoptera
Aphididae
24 genera, 279 species
all attack only aphids
(Mackauer and Stary 1967)
Aphelinidae
4 genera, about 60 species
attack aphids -- 550 other
species attack mostly other
Homoptera (Mackauer 1972)
aphids
honeydew
Aphid predators
Coleoptera
Coccinellidae (ladybeetles)
about 400 species in North America
Neuroptera
Chrysopidae and Hemerobiidae
(green and brown lacewings)
Diptera
Syrphidae (hover flies)
Others (Hagen and van den Bosch 1968)
soils
water
air

Reprinted from *Bioscience* with permission of W. Olkowski.

By Phyllis Kierig

"Bugs annoy me."

"I hate cockroaches with a passion. All I can think about is kill, kill, kill when I see them . . . "

The irrational fear and hatred of insects is one of the biggest problems in rationally planning the control of garden and house variety insects.

"How to control garden pests without killing everything else, is one of the aims of an urban pest management program," explained Drs. Helga and Bill Olkowski of the University of California's Berkeley campus entomology department.

The Olkowskis describe their urban integrated pest management program developed from 1970 to 1975 for Berkeley, California's 30,000 street trees at a special integrated pest management seminar in Washington, D.C., late this Spring.

The entomology authorities said homeowners and apartment dwellers are using too much insecticide.

"People spray when there is no need," said Helga. People spray for bugs when they are only a nuisance, not a plant danger . . . "

Currently, the couple said that 40 to 50 percent of all pesticides are used in home and urban areas.

Restaurants, movie theaters, office buildings, clubs, homes, golf courses and corporations use enough pesticides to equal the amount sprayed on farm fields during a year.

The Olkowskis said the heavy usage of urban pesticides led them to devise biological strategies to control pests in cities.

The biological or non-chemical pest control methods are needed, said the Olkowskis because chemical control never solves pest problems. The chemicals are a quick fix for excessively high pest populations. After the chemicals wear off, the pests return and must be treated again with another "costly" spraying.

The Berkeley management team said problems arise because of the chemical residues left from pesticide applications. The residues affect non-insect or non-target species through direct contact or drift, biomagnification or synergistic actions with other environmental contaminants.

When pesticides are oversprayed they often kill the insect's natural enemy, thus making natural control harder.

Finally, the Olkowskis said overuse of pesticide increases the outbreak of secondary pests. The urban pest management team said the use of natural enemies to control insect plagues has had a history of almost 100 years.

The first important control of natural insect control occurred in California citrus in 1888 against the cottony cushion scale, Icerya purchasi Mask.

Since the 1888 success, the techniques of introducing a natural enemy has resulted in the complete or substantial control of 120 pest species in 253 separate projects around the world.

The Berkeley, California park system has saved $22,500 a year in insecticide costs since developing a natural enemy an integrated pest management approach to pest control. San Jose has reduced its pesticide bill from $17,000 to $6,000 annually.

No longer does the Berkeley or San Jose park district rush out to spray all city trees when just a few homeowners report insect infestation. In the past, the park district employees would have sprayed all the city parkway trees when only 20 trees were infested. Now, through education, the district only uses sufficient amounts of insecticide to complement natural defense mechanisms.

Briefs

MUCC

George Alexander, Jr., U.S. Environmental Protection Agency region V administrator, will be the keynote speaker at the Michigan United Conservation Club's water quality planning conference June 17 in Lansing, Michigan.

Alexander's speech, "Putting Your Teeth Into 208," will discuss the opportunities available to citizens to utilize water quality planning to stop water pollution and protect environmental resources.

Interested citizens and representatives from conservation, farm, garden and other organizations are encouraged to attend the 9 a.m. to 8 p.m. conference.

The conference is funded by the U.S. Environmental Protection Agency through a grant to the National Wildlife Federation, which, in turn, funds the Michigan United Conservation Clubs.

Rock Creek investigation

U.S. EPA officials are cooperating with the State of Indiana in an investigation of possible causes of illness reported in children and teachers at the Rock Creek School in Columbus, Indiana. The school staff believes the illness is associated with bad odors from a nearby plant that disposes of industrial wastes. So far, no link has been established between the waste disposal operation and the illnesses but the investigation is continuing. Symptoms include nausea, nose bleeds, headaches and general malaise.

Water resources conference

The Fifth Illinois Water Resources Conference, "Water Resources in a Changing Environment," will be held in Chicago's Hilton Hotel, June 10-11, 1977. The conference, coordinated by the Illinois Section of the American Water Resources Association, will focus on the interdisciplinary aspects of water resources for engineers, scientists, economists, environmentalists, lawyers, legislators and administrators.

EPA sues Detroit to stop illegal lake discharges

At the request of George R. Alexander, Region V Administrator, U.S. Attorney Philip Van Dan, has initiated legal action against the City of Detroit Water and Sewage Department to end serious pollution discharges into Lake Erie.

The City's discharge into the Lake is in violation of both the Federal Water Pollution Control Act and the U.S. Canadian agreement of 1972, specifically calling for pollution cleanup through reduction of phosphorus into Lake Erie.

Detroit's excessive emissions of phosphorus accounts for almost 40 percent of all the phosphorus introduced into Lake Erie, earning for the city the reputation of single largest phosphorus discharger into the Lake. Phosphorus is the main cause of accelerated eutrophication (premature aging of fresh water lakes).

A second equally important factor in instituting the suit is to help Detroit retain its share of committed Federal funds for the construction of adequate sewage treatment facilities; a commitment of monies in excess of $150 million, which will be cut if the city does not recruit local funding to meet cost requirements.

U.S. Steel Gary Works faces stiff clean-up schedule

In what Federal officials are calling the single biggest clean water victory to date the U.S. 7th Circuit Court of Appeals in Chicago unanimously affirmed the U.S. EPA's cleanup order to United States Steel Corporation's Gary Works.

Considered the largest single discharger in the entire Great Lakes Area, the U.S. Steel Plant in Gary discharges three-quarters of a billion gallons of polluted water each day into Lake Michigan and the Grand Calumet River. The discharge contains harmful quantities of ammonia, cyanide, and phenol among other pollutants. EPA's order requires 60 percent reduction in ammonia, 95 percent reduction in cyanide, and 90 percent reduction in phenol.

As a result of the Court's decision, U.S. Steel had 49 days from the date the decision was issued to 1) install pollution equipment, 2) face civil and criminal penalties, 3) close the plant, or, preferably, 4) negotiate a new compliance schedule with a reduction in fines.

Briefs

Nozzel caper

Switch-up fouls air quality

EPA's Midwest Office has issued a complaint against Amoco Oil Company's Standard Oil Division and has assessed fines of $60,000 for nozzle violations.

In enforcing its regulations prohibiting the transfer of undersized nozzles to leaded gasoline pumps, EPA has cited 10 separate retail outlets which Amoco owns and/or leases.

Undersized nozzles permit leaded gasoline to be put into cars designed for unleaded fuel only. As a result, the catalytic converter may become contaminated with lead and discharge harmful carbon monoxide and hydrocarbons into the air.

Brad Holleyman, EPA field inspector for nozzel violations

Great Lakes pollution progress review coming June 3, 6, 7, 14

What has happened to the Great Lakes in the five years since the U.S. and Canada agreed upon a joint cleanup program?

Four public meetings to help answer that question have been scheduled for June. Locations of the meetings are: June 3, the Duluth Radisson Hotel; June 6, the Pick Congress in Chicago; June 7, the Sheraton Cadillac in Detroit; and June 14, the Americana of Rochester, New York. Additional information can be obtained from Conrad Kleveno, A-106, U.S. EPA, Washington, D.C. 20460 (202) 755-8712. Kleveno also has copies of the American-Canadian agreement for distribution.

EIS court win

EPA Region V won a landmark decision last month under the National Environmental Policy Act of 1969 in the U.S. District Court for the Northern District of Illinois.

In a civil action brought by the City of Des Plaines against the Chicago Metropolitan Sanitary District and EPA, the city lost its bid to stop construction of a sewage treatment facility because of environmental considerations.

EPA cites 10 Ohio Edison plants

EPA Region V has taken action to clean up flyash emissions from 10 Ohio Edison facilities located throughout Ohio. This is the largest number of actions ever taken by EPA against a single corporate polluter.

EPA issued 30-day notices of violation to the company's numerous boilers at 10 facilities emitting over 36,000 tons of particulates a year where regulations allow 3,900 tons a year. Eight of the 10 facilities (all but the two located in Springfield, Ohio) are located in areas where national health-related standards are not being met:

Name	Location
Niles Plant	Niles, Ohio
North Avenue Plant	Youngstown, Ohio
Mad River Plant	Springfield, Ohio
Rockaway Plant	Springfield, Ohio
Beech Street Plant	Akron, Ohio
Gorge Plant	Akron, Ohio
Edgewater Plant	Lorain, Ohio
R. E. Burger	Shadyside, Ohio
Toronto Plant	Toronto, Ohio
East Palestine Plant	East Palestine, Ohio

If the violations continue beyond the 30th day, Ohio Edison will face fines amounting to as much as $25,000 per day.

Goiter puzzle

According to a Canadian cancer researcher, Dr. Ron Sonstegard of the University of Guelph, Ont., rising pollution levels might be the cause for an alarming increase in goiters and tumors in Great Lakes fish in the past few years.

Dr. Sonstegard's study shows the most severe cases of goiters and tumors were found in waters adjacent to large cities, suggesting a relationship to industrial or municipal waste discharges — also shown in his studies was a significant increase in the incidence of cancer in various species of Great Lakes fish. Sonstegard presented his research to the 20th annual Conference on Great Lakes Research.

$5.1 million allocated for lake restoration

Fifty lakes and reservoirs across the country will become cleaner for recreation or for use as sources of drinking water, thanks to EPA's "clean lakes" grant program.

Of the 50 projects awarded Federal monies, Region V's Wisconsin and Minnesota have received over $5.1 million of the $11.5 million total.

So far, Congress has appropriated a total of $38 million for the states and communities to clean up publicly-owned freshwater lakes. The program specifies control of pollutants, sediments, and nutrients such as phosphorus and nitrogen which cause excessive growth of algae in bodies of water.

Carter reaffirms nation's support for clean air, water

President James Carter submitted to Congress a comprehensive environmental message on Monday, May 23. The message includes more than a dozen new legislative initiatives or commitments to submit future legislation, five executive orders, and a wide variety of policy statements and directives to federal agencies. It expressed the President's commitment to the goals of environmental protection.

In the introduction to the Message the President stressed that environmental issues are broad in scope, encompassing the workplace and the urban environment, as well as conventional concerns about pollution, wilderness and wildlife.

He also stated his belief that environmental protection is "consistent with a sound economy" and has created — and will continue to create — many more jobs than it costs. The President praised the Congress for the major environmental legislation enacted over the past seven years and he pledged the Executive Branch to sensitive administration and energetic enforcement of these laws, many of which have yet to be fully implemented.

He observed that environmental protection is no longer just a legislative job, and promised that it would receive "firm and unsparing support" from the Executive Branch.

The Message covers a number of major themes: controlling pollution and protecting the public health; energy and the environment; the urban environment; protecting natural resources; preserving our national heritage; the global environment; and making environmental laws work more effectively.

POLLUTION AND HEALTH

Toxic Chemicals

Toxic Substances Control Act: The President emphasized the importance of preventing hazardous pollutant problems rather than reacting to them after the fact. His Fiscal Year 1978 budget provides nearly $29 million for this program, compared with $7.4 million in Fiscal Year 1977.

Coordinated Strategy Against Toxics: In addition to the Toxic Substances Control Act there are now more than a dozen federal statutes implemented by seven different agencies, which address in various ways the problems of harmful chemicals. These include the Occupational Safety and Health Act, the Clean Air Act, the Federal Water Pollution Control Act, the Safe Drinking Water Act, the Federal Food, Drug, and Cosmetics Act, the Federal Environmental Pesticide Control Act, the Resource Conservation and Recovery Act, and the Consumer Product Safety Act. To ensure that these authorities are administered in an efficient and complementary fashion, the President has directed the Council on Environmental Quality to lead an interagency effort to design a coordinated federal strategy to: eliminate overlaps and omissions in information collection and analysis; coordinate research and regulatory priorities; emphasize prevention of problems before they occur; and to ensure that regulations are effective, necessary, mutually compatible, and otherwise enhance coherent implementation of these laws.

Industrial Toxics Control: The President's Message placed as a highest priority the development of best practicable technology by 1983 which establish limitations on toxic pollutants and the incorporation of these limitations into permits restricting the amount of pollution individual industries can discharge.

Amending Section 307(a) of the FWPCA: Section 307(a) of the Federal Water Pollution Control Act (FWPCA) established a process for EPA to set affluent standards for toxic pollutants. However, in practice implementing this section has been found to be slow and cumbersome, so that only six toxic effluent limitations have been established. The President has also instructed EPA to prepare amendments to the FWPCA which will make Section 307(a) a more effective tool to respond quickly to new problems that are discovered.

Drinking Water Standards: Recently, there has been increasing evidence that chlorinated hydrocarbons found in drinking water supplies may be cancer-causing. The President has instructed EPA to develop as soon as feasible, standards to control such carcinogens as well as other toxic pollutants.

Air Pollution: The President reiterated his support for the Administration's proposed amendments to the Clean Air Act which will provide for strict emission limitations on automobiles, strong provisions to prevent deterioration of air quality in already clean areas, and other proposals to strengthen the Act.

Water Quality

Federal Water Pollution Control Act (FWPCA): The President promises to submit amendments to the FWPCA to make pollution "unprofitable as well as illegal" by imposing penalities on firms that have failed to abate pollution on schedule.

Areawide Water Quality Management: Section 208 of the Federal Water Pollution Control Act calls for the preparation of comprehensive plans for controlling water pollution from point and nonpoint sources such as farms, forestlands, mines, and urban streets. The President reemphasized the importance of the state and local planning efforts to the continued progress of the water pollution control program, stressed the importance of expeditiously completing and implementing effective 208 plans, and promised to submit legislation strengthening this program.

Solid Waste

The President directs the Interagency Resource Conservation Committee to speed up its recommendations on the use of solid waste disposal charges (levies on materials and products in an amount calculated to reflect the costs associated with the ultimate disposal of such materials).

He directs the use of recycled paper in the White House, wherever practicable, as soon as present stocks of paper are exhausted.

ENERGY AND THE ENVIRONMENT

Health and Environmental Effects of Coal Technology: Coal conversion technologies (e.g., gasification, liquefaction) and other new energy technologies can produce numerous substances unacceptably harmful to health and the environment. The President is directing the Administrators of the Environmental Protection Agency and the Energy Research and Development Administration, and the Secretary of the Department of Health, Education and Welfare to institute a detailed, ongoing joint program to review the health and environmental problems associated with advanced energy technologies and the adequacy of the present environmental research program. Along with this review, the Administrators of the Environmental Protection Agency and the Energy Research and Development Administration have been directed to establish procedures for developing environmental standards for these new technologies.

Stripmining Regulation: Both the House and the Senate have now passed national stripmining regulation bills that are generally similar, but differ in some important respects. The President urged final passage of this legislation in its strongest form.

Coal Leasing Reform: An estimated 187 billion tons of reserves of publicly owned coal are administered by the Department of the Interior in the West. There are already 16 billion tons of federal coal under lease although production is extremely limited (26.9 million tons in 1975). Also, there are currently 10 billion tons of federal coal for which there are outstanding non-competitive (preference right) lease applications. Almost all the existing leases have passed into private control without assessment of the environmental impacts of production. As a result, development of some leases may be environmentally undesirable, particularly when compared to development of federal coal not currently essential to have a leasing program which can respond to national energy needs in a way that assures that mining only occurs in areas where it is environmentally acceptable and compatible with other uses of the public lands. He has directed the Secretary, in accordance with new coal leasing amendments and the recently enacted Federal Land Management and Policy Act, to determine which lands are appropriate to offer for lease, based on environmental reviews, coal assessments, and indications of market interest; to complete land use plans before deciding to offer a specific tract for sale; and not to lease any tract, until the Secretary is satisfied that the environmental impact of mining would be acceptable and that the federal government will receive a fair market value for the lease. The directive to the Secretary also calls for a review of the best way to handle the many leases and preference right applications issued prior to the new laws. The Secretary is to take appropriate measures to address this problem, including: exchange of environmentally acceptable coal lands of equivalent value; reassessment of the basis for granting or denying preference right leases; and submission of legislation to authorize the condemnation of outstanding rights upon payment of reasonable compensation, if necessary to prevent environmental damage.

Outer Continental Shelf: The President stated his support for strengthening amendments to the OCS Lands Act. He also has directed the Secretary of the Interior to make an early start on providing access to OCS-related information that is scattered among many government agencies and non-government sources as well and make sure that the data required by regulation from industry is as complete as possible.

Water for Energy: The President has directed the Secretary of the Interior to prepare a comprehensive report of the availability of water for coal and other energy development, giving particular attention to the impacts on potential competing uses. It is widely recognized that extensive use of coal for generating electricity and production of synthetic fuels will require large amounts of water. In addition, possible use of slurry pipelines for coal transportation will be an intensive water use. These and other uses of water for energy purposes may impose unacceptable cumulative demands, particularly in water-short regions. Numerous studies underway or completed have addressed only parts of this problem.

PROTECTING NATURAL RESOURCES

Floodplain Management Executive Order: Since the adoption of a national flood control policy in 1936 the federal government has invested about $10 billion in flood protection works. Nevertheless, annual property, human and non-human losses from floods and the disruption of floodplains continues to increase. The federal government can induce unwise and risky development of floodplains through its own project construction and property management, through its financial and technical assistance and support of financial institutions, and by issuing permits and licenses.

The President is issuing an Executive Order to all federal agencies to protect the values and benefits of floodplains and to reduce risks of flood losses by not conducting, supporting or allowing action located in floodplains unless it is the only practicable alternative.

Wetlands Protection Executive Order: It is estimated there were 120 million acres of wetlands in the 1950's. Today that amount has been reduced to 70 million acres. Wetlands are still being lost at a rate of about 300,000 acres per year. The President is issuing an Executive Order which requires all federal agencies to refrain from supporting construction in wetlands wherever there is a practicable alternative. The Order establishes a federal policy for the conservation and protection of wetlands, and directs federal agencies to take certain steps to avoid to the extent possible the long and short term impacts associated with the destruction or modification of wetlands.

Wetlands Regulation: The President stated his strong support for the current Federal Water Pollution Control Act program which regulates the discharge of dredge or fill material into wetlands. He promised to submit amendments to the Act to improve wetlands protection and authorize states to carry out major portions of the programs.

Coastal Barrier Islands: There are 189 barrier islands that stretch along our coasts from Maine to Texas. These long chains or relatively flat, sandy formations offer a rich diversity of recreational opportunities, often near our large population centers. Most are privately owned. They are targets of intense real-estate and development activity, often encouraged by federally permitted or subsidized roads, bridges and sewers. The President has directed the Secretary of the Interior to investigate measures necessary to protect the 68 remaining unspoiled coastal barrier islands from unsound development.

Off-road Vehicles: The President issued an Executive Order amending Executive Order 11644 on the "Use of Off-road Vehicles on the Public Lands" requiring agency heads to close portions of the public lands to the use of off-road vehicles if such use will cause or is causing considerable adverse effects on the soil, vegetation, or other values of the public lands. The amendment also authorizes federal agencies to adopt the policy that portions of the public lands shall be closed pending the completion of studies as to their permanent designation as suitable or not suitable for use by off-road vehicles.

This amendment will not result in an arbitrary or blanket closure of the public lands. Moreover, it will only affect those off-road vehicles actually responsible for environmental damage. Thus, where snowmobiles, for example, cause no harm during the winter, they will not be restricted simply because motorcycles are causing damage during the summer.

PRESERVING OUR NATIONAL HERITAGE

National Heritage Trust: The President has directed the Secretary of the Interior to develop within 120 days a National Heritage Trust proposal to protect our natural and cultural heritage. Existing federal programs dealing with natural, cultural, and historic resources are fragmented. Over a dozen federal agencies administer over 200 programs which affect areas important to our national heritage. A comprehensive program is needed to identify, acquire, and protect these resources; to provide for rapid acquisition of the most significant and endangered areas and examples of natural ecosystems;

EFFECTIVE IMPLEMENTATION OF ENVIRONMENTAL LAWS

The National Environmental Policy Act (NEPA): The President emphasized the importance of the National Environmental Policy Act (NEPA) to the development of sound federal decisions and to public involvement in government. To improve the implementation of NEPA and, in particular, the use of its required environmental impact statements he has issued an Executive Order:

— Authorizing the Council on Environmental Quality (CEQ) to issue regulations which will ensure the effectivenes of environmental impact statements while reducing unnecessary paperwork.

— Directing CEQ to prescribe procedures to help resolve interagency conflicts regarding projects being reviewed under NEPA.

Consolidated Environmental Grants: Within the Environmental Protection Agency (EPA) there are over six different offices administering environmental grants totaling over $150 million, and separate grant applications on the part of the recipient agencies must be made for each of the various programs. In order to eliminate confusion and conflicting requirements, to encourage greater recognition of the relationships among pollution control programs, and to provide more efficient and flexible assistance to state and local governments, the President will submit legislation that will consolidate EPA's separate planning, research, and regulatory grant programs into one comprehensive program.

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George Alexander, Jr. — regional administrator
Frank Corrado — public affairs director
Bill Omohundro — editor
Kathy Brown — briefs and people editor
Phyllis Kierig — production editor

An Environmental Forum Focus on West Michigan

Wednesday, June 22, 1977

8-9:30 p.m.

Grand Valley State College
Campus Center
Allendale, Michigan

Directly or indirectly, we of the U.S. EPA and Michigan DNR are involved in many activities which may personally affect you.

We believe that our approach to protecting the environment is both practical and effective. But perhaps you do not. We are of the opinion that the wise administration of public policy should reflect the attitudes of concerned citizens. After all, our Nation's environment is your business.

So if you have something to say to us, we would like to hear it. This is your opportunity to stand up, along with your fellow citizens and representatives, and tell our top people what you think of us, and why. We guarantee that we will be listening and that you will get answers.

Officials: George R. Alexander, regional administrator, U.S. EPA, region V; Dr. Howard A. Tanner, director of Michigan Department of Natural Resources.

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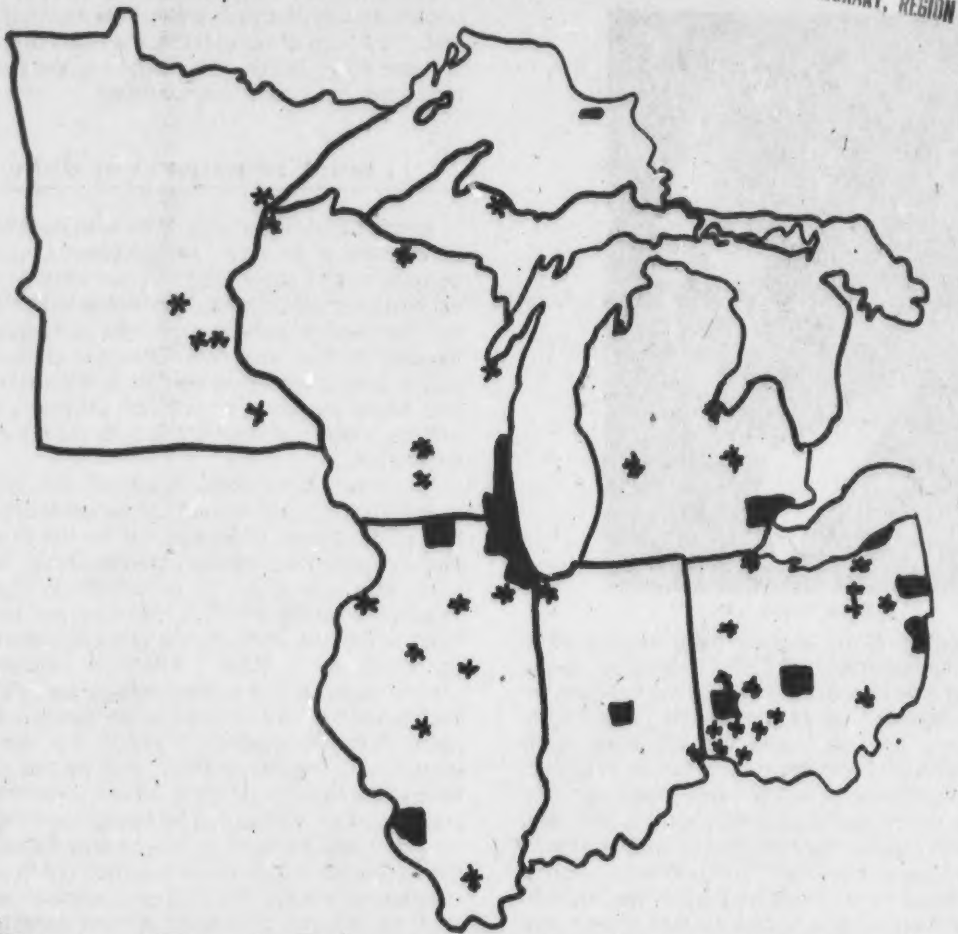


Top Oxidant Problem Areas

Region V, U.S. EPA

Milwaukee-Chicago-Detroit-N.W. Indiana-State of Ohio-St. Louis-St. Paul & Minneapolis

(See related story page 10)

Administrator, Region V

Accomplishments & Goals

George Alexander, Jr.

The occasion of my reappointment on June 20 as Regional Administrator of EPA in Chicago seems like a good time to share with you some thoughts on what the Agency has accomplished in its nearly seven years, and on where we are going, both across the country and, especially, here in Region V.

Some significant activities have been put into place: the water permit system, a greatly enlarged construction grant program, the "208" areawide planning process, the preparation and application of State Implementation Plans and other mechanisms for air pollution control, a new system of pesticide registration and pesticide applicator certification, an intensive program of studies on the environmental effects of energy production and use, and considerable assistance to State and local governments to help them deal with their solid waste and noise problems.

Together with government at all levels, industry, and citizens, we have accomplished a lot, nationally and here in Region V. Pollutant loadings to the Great Lakes have been reduced; we are getting a better understanding of how to control the important "non-point" sources of pollution; some kinds of air pollution are down in our cities; large numbers of pesticide applicators have been certified.

". . . much remains to be done

At the same time, much remains to be done. With 30 percent of all American manufacturing and 20 percent of the people, Region V has some of the oldest and most difficult pollution problems in the country. We need to achieve complete compliance with the permits that have been issued to cities and industry, and to write new permits as the old ones expire. Many stubborn air pollution problems are still with us. Region V will continue its strong enforcement efforts.

There are some new problems, too, and new programs which will require concerted efforts on the part of the people of Region V if we are to achieve the maxium environmental benefits. Quick, coordinated, effective action is necessary to meet the threats from spills of toxic substances, and to ensure that routine use and disposal of these materials are accomplished safely. Effective management programs are a vital prerequisite to successful application of the control methods contained in the 208 plans. Automobile-related pollution is a regionwide (indeed, nationwide) problem, and we are going to have to come to grips with it. All of our technical and planning skills will have to be brought to bear to ensure that development of new energy facilities and the increased use of coal are carried out in environmentally safe ways. There is an important new program for preventing contamination of drinking water supplies.

With these items and more, Region V will have a full environmental protection agenda in the next months and years. It is up to all of us — government, industry, educators, environmental groups, interested citizens — to work together to see that the problems we have now are solved, and that those who come after us will have a clean environment. I look forward to continue to work with the people of Region V in this effort.

Municipalities lag

Discharge deadline finds 74% of industry meeting standards

NPDES permit deadline July 1

By William G. Omohundro

The first critical date in the National Pollutant Discharge Elimination System (NPDES) timetable to clean up the nation's waters has come and gone. By July 1, 1977, all industrial dischargers into the waters of the United States were supposed to have achieved best practicable control technology (BPT) and municipal dischargers were to have achieved secondary treatment.

In EPA's Region V, a preliminary tally made in early June 1977 indicated that 74 percent of the major industrial dischargers met the July 1, 1977, deadline, but that a majority of municipal dischargers did not.

On the industrial side, there are 565 major industries in the six states in the Region: Illinois, 121; Indiana, 68; Michigan, 133; Minnesota, 59; Ohio, 115; and Wisconsin,69.

James O. McDonald, Director of Region V's Enforcement Division, said that of the 121 major industries in Illinois, 100 are expected to be in compliance and of the remaining 21 not in compliance, some may be eligible to receive Enforcement Compliance Schedule Letters (ECSL's) and the others will be candidates for enforcement actions. The ECSL is a nationally developed enforcement discretion policy announced last year by the Assistant Administrator for Enforcement.

McDonald said that each case not expected to be in compliance is being carefully reviewed and the Agency is considering what action it will take. On several of these, enforcement actions have already been initiated.

"Although Illinois is the only state in the Region where U.S. EPA has primary permit authority (all other states in the Region requested and received permit granting authority under the NPDES program)," he said, "EPA is looking for a strong enforcement posture in all states. To do otherwise would be unfair to those permittees who have made the deadline. In short, failing to be in compliance by the deadline should be met by a firm enforcement response."

"We will evaluate each case for the possibility of seeking substantial civil money penalties for anybody who does not meet the July 1, 1977, deadline, plus imposing a tight compliance program," he said. "The individual cases referred for litigation will be announced when the case is filed."

Turning to Indiana, McDonald said 11 of the 68 major industrial facilities are expected to be out of compliance. "The State has been considering what actions they will take in these categories, and we are making determinations about the adequacy of the State actions," he noted.

He said EPA is encouraging Indiana, as well as the other states, to get heavy civil money penalties from any permittee that does not comply with the July 1, 1977, date. (Editor's Note: *As press time for this article approached, EPA announced the largest civil penalty water pollution settlement ever reached in the form of $3,250,000 in fines against the U.S. Steel Corporation's Gary, Indiana works for failure to meet the July 1, 1977, deadline. In addition to the fines, of which $2,925,000 goes to the Federal government and $325,000 to Indiana, the settlement package included $750,000 in technical studies by U.S. Steel — for a total settlement package of $4 million.)*

"In the State of Michigan, out of a total of 133 major industries, it looks as though at least 35 permittees, or 26 percent, will be out of compliance. The State is reviewing what enforcement actions they will be taking, and EPA is attempting to evaluate the adequacy of the State action to date and its planned actions."

In Minnesota, roughly 10 of the 59 major industries will not be in compliance. Of these 10, there are four that do not yet have an effective permit. These include three power plants, still in adjudication proceedings, and the Reserve Mining Company, which has been the subject of extensive past litigation.

"For the remaining six," McDonald said, "the State has already committed itself to the kind of actions that they plan to take. U.S. EPA is reviewing these." He noted Minnesota has already received a civil money penalty of $92,500 from Boise-Cascade.

In Ohio, he said, the problem is complicated by the fact that there are 32 facilities in the State in adjudication or otherwise tied up that do not now have an effective permit out of a total of 115.

"So that's about one-fourth of the major industries that do not have effective permits. Those obviously must be quickly resolved," he stated. "Above and beyond that, there are another 20 that the State does not anticipate will attain operational level on July 1." He said EPA is encouraging the State to proceed with strong enforcement.

McDonald said a review is underway of the State's proposed actions to determine if Federal action is necessary.

In Wisconsin, he pointed out, 16 of the State's 69 major industries are expected to be out of compliance with July 1, 1977, deadline.

"Wisconsin has informed us of their enforcement strategy. We have been informed that they will be looking for referrals to the State Attorney General and heavy money penalties in all 16 cases.

"So, basically, that's the rundown on the industrial side. The bright side is that 3 out of 4 major industries have met the deadline and they should hold their heads high for this significant accomplishment."

Turning to the municipal permit picture, which is not nearly as bright, McDonald said, "Municipalities can receive up to 75 percent Federal funding for the construction of sewage treatment plants and facilities. At this time, the great majority of the major municipal permits in Region V are involved in the grants process. Those facilities are now being assessed to see if they are moving along as quickly as they can in the grant process. If they are lagging in this respect, they will be candidates for appropriate judicial action, including penalties. I would point out that this Agency recently filed suit against the City of Detroit, the single largest municipality in the Great Lakes, for pollution violations. Municipal enforcement definitely has to be stepped up against those cities not going ahead expeditiously."

"Nevertheless, as things now stand," he said, "the majority of the municipalities will not be in compliance with the July 1, 1977, requirements because many of them have not completed the grant process."

In Region V there are 534 major municipal facilities required to have permits. The June 1977 projections estimate that 28 percent of the municipalities will be in compliance. All of these facilities are being evaluated to determine whether enforcement actions will be initiated or whether the municipality is eligible for an ECSL.

In Illinois, McDonald said, about 45 major facilities should be meeting final limits as of July 1. "That's about 30 percent of the major municipalities in the State."

About one-third of the remaining municipalities will be evaluated for enforcement actions or ECSL's if they have done everything they can to move expeditiously through the grant process, in addition to meeting the other ECSL requirements, he noted.

"There's another one-third in Illinois that are meeting Federal effluent limitations but are not meeting the more stringent State standards." He said the municipal plants are now meeting Federal secondary standards for BOD (biochemical oxygen demand) and suspended solids of 30 milligrams per liter as a monthly average and 45 as a weekly maximum, but the Illinois standards require a greater reduction.

In Indiana, McDonald said, it now appears that roughly one-third of the 91 major municipalities will be in compliance.

He said that in Michigan, present estimates are that some 37 percent of the 65 major municipalities will be in compliance with final limits and the remainder will not be.

In Minnesota, he said, it now appears that 10 of the State's 40 major municipal permittees will be in compliance with the final July 1 limits.

"In the State of Ohio," he said, "we are presently estimating that only nine of the 131 major municipal facilities will be in compliance with final limits."

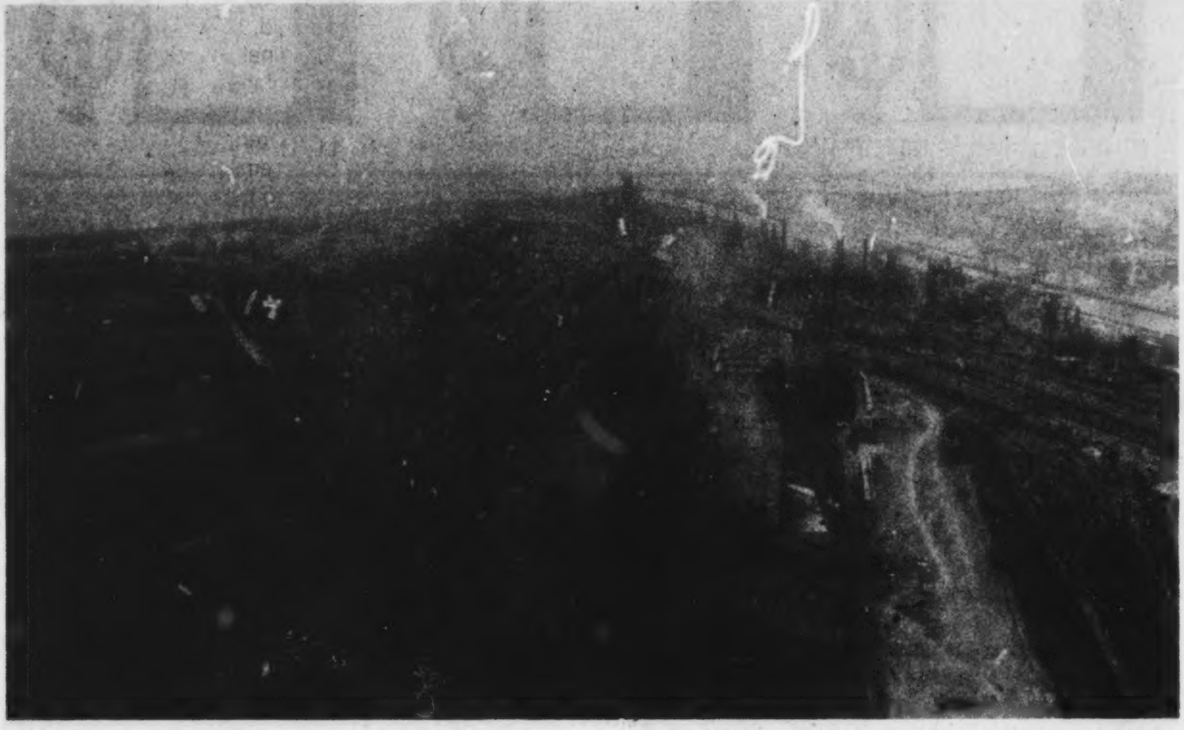
Wisconsin has projected that approximately 32 of their 67 major municipal facilities will be in compliance.

McDonald then turned to the problem of operation and maintenance of the sewage treatment facilities. "Even if a municipality is moving through the grant process at the speed at which it's possible to move, if the facility is not being operated and maintained as efficiently as possible, if there is sloppy caretaking, equipment breakdowns without fast replacement, then Federal and State enforcement action has to be considered. Increasing enforcement attention just has to be directed towards O & M problems."

"In other words," he added, "we need to move against those municipalities that are not doing what it's possible to do with the plant they have on line at the present time. We expect all plants to be efficiently operated and well maintained, even if the plants are undergoing a major construction or planning program to eventually improve the quality of the facility and its effluent."

"In the short term, they have to get the best quality effluent they can with their existing plant. Any instances where, based on field surveys, citizen complaints, or reports that the permittees send in to us, we find out that they are not doing this, we will look for enforcement action at either the State level or the Federal level."

"Enforcement under the Federal Water Pollution Control Act, whether against industries or municipalities, must serve dual objectives," McDonald said. "First, maximum pollution abatement must be served by accelerating compliance with an enforceable schedule. Secondly, the integrity of the NPDES program must be maintained by making noncompliance less attractive than compliance by the imposition of appropriate penalties."



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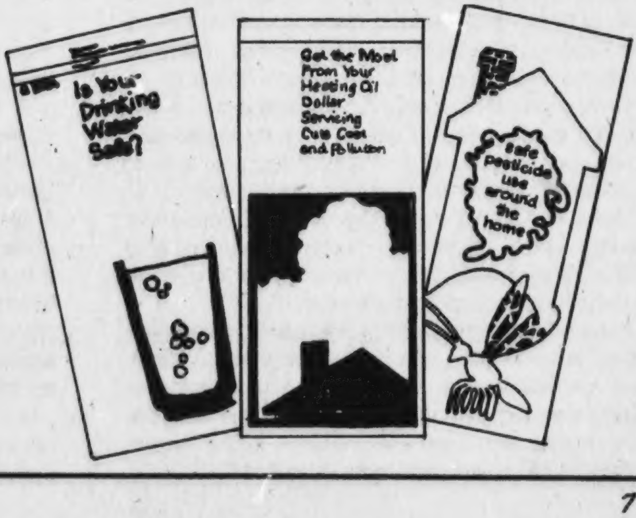
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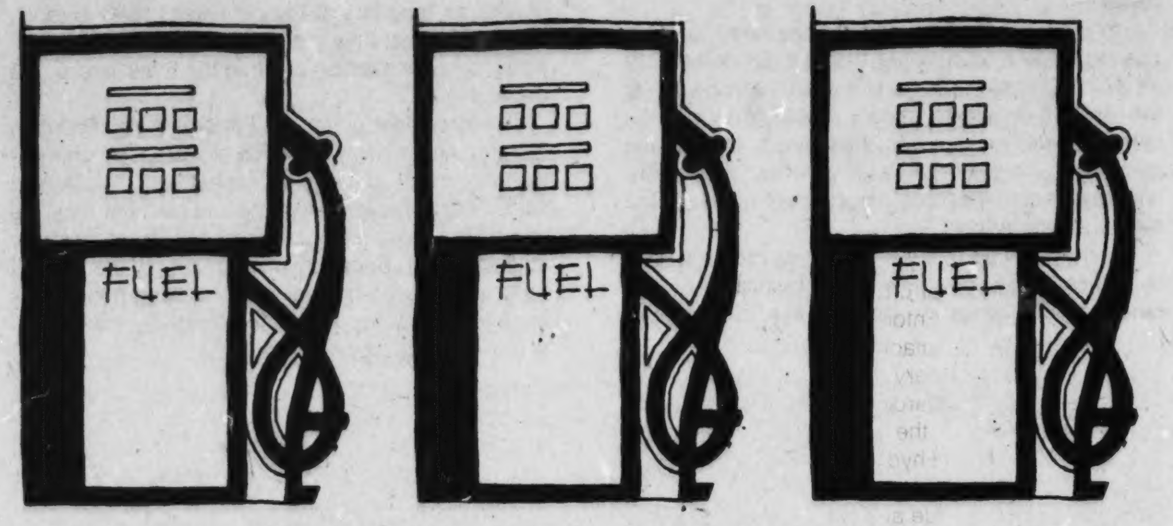

Catalytic converter bypassers foiled

By William G. Omohundro

To protect catalytic converters from being "poisoned" by leaded gasoline that wrecks controls on carbon monoxide and hydrocarbons from automobile exhaust fumes, EPA Region V has begun a crackdown on oil companies that allow use of underside nozzles on leaded gasoline pumps, permitting leaded gasoline to be injected into cars with converters.

Region V's campaign to protect pollution control devices was kicked off on May 19 when Regional Enforcement Director, James O. McDonald issued an administrative complaint against Standard Oil Division of Amoco Oil Company citing 10 separate retail outlets which Amoco owns and/or leases in the Region and assessing the company a $6,000 civil penalty for each outlet for a total of $60,000.

On May 23, Mobil Oil Company was assessed an $18,000 civil penalty for violations at three separate outlets, and on June 9, Texaco, Inc., was fined $32,000 for violations at five separate outlets.

David Kee, Chief of the Regional Air Enforcement Branch, said the fines are designed to provide an economic incentive for the major oil companies to do in-house policing of nozzle sizes.

"The oil companies check the rest rooms at their outlets to make sure that high standards of cleanliness are maintained. We're asking that they use these same high standards to protect the environment. If they don't, we are prepared to pursue the penalty route to persuade them to do this."

Kee said that Region V's Surveillance and Analysis Division routinely sends inspectors out from its District Offices in Minneapolis, Chicago and Cleveland for random sampling of gasoline stations for lead content of unleaded gasoline required for the cars with catalytic converters (1975 was the first year converters were used) and for checking nozzle sizes.

"The unleaded gas that's coming out of the unleaded pumps is generally meeting standards," Kee said. "Less than one percent of that gas is contaminated with lead."

But on the nozzle side, he said, the story is different. "For the past several months we've been finding about a 10 percent violation rate, and that means one station in 10 has the capability of putting leaded gas into these cars with catalytic converters and ruining them."

Kee said the threat to the whole costly catalytic converter program is such as to warrant a major crackdown on the major oil companies. "When you consider that about 10 million cars are sold a year in this country and most of them have catalytic converters costing around $70 to $100 apiece, you see that hundreds of millions of dollars are being spent each year on this effort to protect air quality," Kee pointed out.

"If the gas stations are permitted to switch their nozzles and pour leaded gas into cars using the converter, hundreds of millions of dollars of clean air investment would go right down the drain," he added. "And that is why we are so concerned over what **seems** to some people like a minor problem."

Kee said that current standards call for reduction of 80 percent in emissions from new cars over uncontrolled automobile emissions. "Even if Congress doesn't tighten the standards from where we are now, we can still get 80 percent reduction in carbon monoxide and hydrocarbons with the catalytic converter. That is very significant in terms of meeting health standards in our urban areas in Region V."

The Regional Air Enforcement Chief said American automobile manufacturers chose the catalytic converter as the primary method of meeting Clean Air Act emission standards for new cars.

"The purpose of the device is to oxidize the carbon monoxide and hydrocarbons that are emitted from the engine as it goes through the exhaust system into carbon dioxide and other harmless components," he said.

"If the catalytic converter has a weakness, it's that if you use as few as two tankfuls of leaded gasoline in a car that has one, you may put a lead coating on the platinum metal surface which prevents the converter from performing its oxidizing function."

Kee said that some people want to use leaded gasoline rather than unleaded gasoline because it is a few cents a gallon cheaper than unleaded. In order to prevent contamination of the catalyst, EPA has required different nozzle sizes on the leaded and unleaded pumps and correspondingly different gasoline inlet sizes on new cars as opposed to older cars to at least hinder introduction of leaded gas into cars with the catalyst.

"Thus, the proper nozzles on the pumps is a key link in this chain of protection that we're trying to give to the catalytic converters," Kee said.

Kee said the problem is relatively simple and that the cost is quite low for an individual station to make sure the correct nozzles are on the right pumps. "But we're determined that it will be expensive for the companies to violate this regulation because they will be faced with significant penalties. We think our position is reasonable and very important to the public health in our Region and we're going to pursue it very vigorously."

The Field Inspector's Story

Three Region V officials who have had first-hand experience in the field-sampling program are Brad Holleyman, Chief of the Technical Support Unit at the Central District Office in Chicago; Robert G. Eckart, Physical Science Technician at the Western District Office in Minneapolis; and Phillip E. Gehring, General Biologist at the Eastern District Office in Cleveland.

A gasoline station inspection consists of three parts: sampling unleaded gasoline for lead content, checking labels on gasoline pumps, and checking nozzles.

Eckhart said: "I go in and introduce myself. I have what is called a field investigator's identification card and I show it either to the operator, or the manager, or the owner, whoever might be there at the time. After I identify myself, I tell him that I'm going to be taking a sample of his unleaded gas and checking it for lead content checking nozzles and labels, which only takes a minute or so."

Gehring said a "template" is used to measure the nozzle size. "It looks just like a short piece of pipe. The inside diameter has been finely machined to 0.930 inches. This is the same size as the outside diameter of the leaded pump nozzle. So, if the nozzle's any smaller than this in diameter, it will fit into a car which is only supposed to use unleaded gasoline. Therefore, it's in violation.

"If it's in violation, you can take the nozzle and point it in a horizontal direction and the template will hang onto the nozzle. If it's as big as it should be for a normal leaded pump, you won't be able to hang the nozzle-measuring device on it at all. It'll just fall off."

He said he has received calls from station owners or managers who complain that they have been abiding by the law but their competitors down the road are not complying with it and are selling gas to customers who demand it, even though they have catalytic converters on their cars. He said these are isolated cases.

"Of course another aspect of the problem is that some people are changing their gas tank openings so that they can put leaded gasoline in unleaded cars," Gehring added. "So the gas station owner might have his nozzles the proper size but the car owners have made it so they can put leaded gas in with the large diameter nozzles."

Brad Holleyman at the Central District Office said if he or one of his inspectors finds a violation, they give a violation notice to the station owner or manager. "We informally call it a ticket, like a traffic ticket. We fill it out, check the violation and give it to the manager or whoever is responsible for the station. The ticket instructs the violator that the violation is to be corrected within a certain length of time. The violator gets a statement which he is supposed to sign and return to EPA as soon as he has corrected the violation."

All three men agreed that at almost every inspection the owners or attendants were very cooperative. They have had few bad experiences.

"All in all," said Eckart, "I'd say the unleaded program is probably one of the best programs that we've got going now. You go out and inspect and if they're in violation they get written up. If they don't follow through on it, the legal people take it up. I don't know of any better way of doing it."

Toxic spills, disposal problems mushroom

By William G. Omohundro

Concern about control of toxic substances has mushroomed in EPA Region V in recent months because of an apparent "epidemic" of toxic spills and hazardous waste disposal problems in, or at least affecting, the Region.

Problems have been reported at such places as Jeffersonville, New Albany, Columbus, and Guilford, Indiana; Wilsonville, Illinois; and Cincinnati, Ohio, among others.

In early April, 41 employees at a Federal facility in Jeffersonville became ill from fumes escaping from a sewer. Water samples were found to contain xylene, toluene, benzene, trichoroethylene, trichlorethane, dimethyl phthalate, dioctyl phthalate, dibutyl maleate and dichlorobenzene. The chemicals apparently came from a truck washing operation that drained into the local sewer system.

Some 60,000 gallons of a high toxic chemical called hexachlorocyclopentadiene (hex), wastes mixed with PCBs and waste oils were discovered in New Albany and were removed to a high security toxic substance storage area.

In Columbus, an unknown toxic has apparently caused a number of students to become ill last Spring at the Rock Creek School east of town.

In Guilford, a train derailment February 22, 1977 punctured a tank car containing acrylonitrile. Tests for contamination of the area are continuing.

In Wilsonville, a controversy is raging over the use of an abandoned coal mine now being used as a hazardous waste disposal site.

Cincinnati has been alerted on more than one occasion this spring due to spills of carbon tetrachloride and sulchlor (sulfur chlorinated product) from a chemical plant upstream in West Virginia.

These highly publicized spills and incidents are dramatic and their potential for harm is great, but even more alarming is evidence which grows each day that they represent only the tip of the iceberg. Underneath these dramatic events lurks what experts believe is a more insidious and deadly threat to human health.

A recently released study of Great Lakes fish shows increased levels of tumors in fish around areas with heavy industrial chemical discharges. Another study shows a similar phenomenon in the heavily polluted Fox River of Illinois. Epidemiologists are finding higher levels of human cancer in these areas as well.

What is the Problem?

Karl Bremer, Region V's Toxic Substances Coordinator, says toxicant problems have been developing on a world-wide basis with the dramatic surge in the development and synthesis of organic chemicals.

"These chemicals find a wide variety of uses as industrial chemicals, in specialized areas such as drugs, in food additives, as pesticides and in consumer goods," he says. The chemical candidate list, a compilation of approximately 34,000 chemicals known to have been manufactured in the United States since January, 1977, includes many of these specialty chemicals.

"On the other side of the story," he continues, "there has been a dramatic surge in our development of technology to detect those chemicals in our water, air, fish and wildlife and in human tissue."

Bremer says techniques using the gas chromatograph and the mass spectrophotometer are being perfected and often — in various media where those chemicals were not detected before — new techniques are making us more aware of the wide-spread accumulation in our environment.

He says the U.S. Food and Drug Administration has found it necessary to set temporary tolerance levels for DDT, dieldren, PCB, chlordane, kepone, mercury, mirex, aldrin, heptachlor, heptachor, epoxide, and toxaphene.

Why is this? "Because levels of these compounds have been found in food, or food products, or in animal feed," he responds. He says some of these chemical substances have reached the top of the food chain, and have cycled themselves through the environment.

"In the Great Lakes Area," Bremer points out, "hundreds of chemical substances are being tracked in fish, air and water." He says these compounds are often found in trace quantities and the significance of such quantities is often uncertain, particularly when we ask about the toxicity of the compound and its effects on fish wildlife and man over a long term.

On March 22, EPA Administrator Douglas Costle listed 15 chemicals which would be given serious consideration under the Toxic Substances Control Act during the next year. They are: hexachlorobenzene, benzene, vinylidene chloride and acrylonitrile, benzidene, phosphates, asbestos, arsenic, cadmium, lead, mercury, ploybrominated biphenyls. trichloroethylene, polynuclear aromatic hydrocarbons and the flame retardant Tris.

Sources to the Food Chain

Bremer said there are a number of mechanisms through which chemicals enter the food chain. "First," he said, "trace amounts of chemical substances can be released during productions or use. If the substance is released into the sanitary sewer system, conventional treatment design at the local sewage treatment plant most often does not remove these substances.

"If the substance does adhere to particulate matter, it is found in the sludge. If the sludge is applied to the land, some persistent substances are translocated in plants and may find their way into the food supply."

He said a second way the chemicals can get into the food chain is through indiscriminate dumping of waste haulers.

A third way is through road oiling with waste oil containing transformer oil, chlorinated organics, and pesticide byproducts which accumulate in the watershed.

"Improper incineration is another source of entry to the environment," he continued. "High temperature incinerators exceeding temperatures of 2,000 degrees Fahrenheit are few in number throughout the U.S."

Bremer said an EPA survey on PCBs found relatively high ambient air and stack concentrations, probably due to incineration of cardboards and small electrical components containing PCBs.

"It has been calculated," he went on, "that approximately 60 percent of the PCBs entering Lake Michigan are from atmospheric sources including rain, snow, and particulate fall-out."

Summer: Baseball, hot dogs, . . . smog

By Frank Corrado

"None of them knew the color of the sky." That famous opening line from Stephen Crane's story, "The Open Boat" may apply to all of us these days.

More people driving more cars, using more electricity are producing more smog. And because of that we're seeing less sun and more haze in the warm summer months.

A friend from Washington, D.C., last fall traveled out to do some filming. He reported back "I took a light reading and it was a full stop brighter out there than on the sunniest day back home."

And while most pollution has always been thought to produce the most serious effects in the place where it is produced, an increasing body of evidence is beginning to show that smog from automobiles and power plants is crisscrossing the country, polluting areas far away from the original source. Pollution from St. Louis is producing smog in Chicago, emissions from the Ohio River Valley are impacting New York.

"We found that under certain weather conditions which occur with reasonable frequency especially in the summertime, that the plume from a power plant or from an urban area like St. Louis would stay fairly cohesive and could be observed and the pollution in it measured for hundreds of kilometers," says Dr. William E. Wilson, Chief of EPA's Aerosol Research Branch in North Carolina. Wilson is directing a national environmental energy study on what we might expect in the future from increased sulfate levels from new power plants in the Midwest, in the Tennessee Valley and the Northeast.

"We have followed plumes from St. Louis and from the power plants around St. Louis up into the Chicago area, out to Iowa and over into Kentucky and Tennessee," he goes on. "In these plumes we see chemistry taking place and pollutants being formed as the plumes move downwind. These are called secondary pollutants — sulfate particles and ozone. These pollutants may not be so bad in the city as they are 50, 100 and 200 miles farther downwind because it takes hours at least for these pollutants to develop."

Wilson says that if you live in a small city downwind of a large city you may have high pollution, not from your local polluters but from someplace far away.

"When you try to understand the source of pollution in an area . . . you have to know not only what you're emitting in your own city, but also what's in the air that comes into your city," he adds. "Certainly you will find the same thing in the Ohio River Valley and the whole East Coast area."

The St. Louis area has received much of the early study because the terrain is rather flat around it, and the background air frequently clean enough to trace plumes. When you get into the Ohio River Valley and into the East Coast, it becomes more difficult to differentiate one plume from another, he says.

Wilson doesn't minimize the importance of going after local air pollution sources. "However," he goes on, "the secondary pollutants which have lifetimes of hours to days can travel all around the country." Everybody is going to have to control their sources of air pollution. Wilson thinks the problem is larger than just a regional one and that it will have to have some other mechanism for control than the current air quality control regions.

Wilson's work has been limited to sulfate and ozone so far. "We need to look at nitrogen oxides, especially nitrates which we don't know much about — like nitric acid and ammonia nitrate," he says. "We're also concerned with organic pollutants, especially those which may be carcinogenic and we need a great deal more information about the chemistry of the problem, the reaction rates and mechanisms."

New monitoring equipment in the Chicago metropolitan area this spring showed formation of a new "ozone alley" along the lakefront from Chicago up to the northern suburb of Waukegan where it "blossoms" according to a state EPA official.

The state EPA reported that ozone builds up over the city and with prevailing south or southeast winds is carried out over Lake Michigan. Lake breezes push the ozone back to the shoreline.

Other EPA researchers are finding that the sulfate problem is a primary, not a secondary by-product of pollution. John Nadar, the Chief of EPA's Stationary Source Environmental Research Branch in North Carolina, has reported high levels of sulfate emissions for burning of oil in power plants.

"Originally," he says, "we thought that one to two percent of the total sulfur oxide emissions from these oil fired plants was sulfates. We've found out, however, that it's more like five to ten percent."

Nadar says this problem is mainly confined to the Northeast which uses Venezuelan oil, which has the high reported levels.

"We're looking now at high sulfur coal to see what kind of levels we're going to get. We suspect that sulfate levels will be higher with this coal usage than with low sulfur coal. The percentage has to go up, even if just linearly."

Briefs

July 1 water cleanup crack down begins

EPA will take tough enforcement action against cities and industries that did not meet the July 1, 1977 deadline for water pollution cleanup.

That promise came in late June from EPA assistant administrator designate Tom Jorling in Washington. Concerning industry, Jorling said: "As we approach the July 1 deadline for installation of best practicable control technology by industry — it is clear that significant progress has been made in cleaning up the nation's waterways." Jorling said that only 600 of the nation's 4,000 major industrial dischargers would miss that deadline, giving an overall compliance rate of about 80 percent.

Jorling said the EPA would concentrate on taking action against the largest dischargers first, those who miss the July 1 date.

The compliance picture with municipalities is not so good. The percentage of those in Region V that will not make that July 1 date is about 65 percent. EPA's new enforcement policy for cities, says Jorling, calls for action against large cities which either failed to use federal clean-up funds available within their respective states to build treatment systems or are not operating and maintaining them properly. Jorling said EPA will go after the one hundred largest cities in violation first. In May, Region V took action against the largest municipal polluter of the Great Lakes, Detroit.

In a related move, EPA has also issued a new policy limiting Federal funding of costly sewer construction fo cases where such work is absolutely necessary. And the agency also announced it will require a special review of the environmental effects of sewage control projects.

Concerning fines to big industries that fall behind, Jorling said, "The recent settlements of $4 million with United States Steel Company for noncompliance by its Gary, Indiana Works and 1.25 million with N.L. Industries for noncompliance by its St. Louis, Missouri Works are an indication of the magnitude of the penalties we will be seeking." (see U.S. Steel Picture story on page 5 and related story on page 3.)

Blum calls for testing accountability

U.S. EPA Deputy Administrator Barbara Blum has ordered a full accounting of any incidents of human testing of suspected cancer causing agents.

Blum ordered the report after several newspaper stories about EPA proposals to study the health effects of feeding the fungicide EBDC, a suspected cancer causing substance, to human subjects. (It should be noted that these proposals were never carried out.)

EPA intends to make certain that all EPA testing meets the most rigid ethical standards.

Toxic concerns
Herbicide problems
Road oil spill

According to an article in the *Detroit Free Press*, a Michigan Department of Natural Resources report concludes that levels of the toxic insecticide dieldrin are increasing and now exceed the federal safety guidelines in Lake Michigan chubs and trout.

Notice-of-Violation issued

Five continuous coating lines at National Can Corporation's Gary, Ind. plant are causing hydrocarbon air pollution problems.

Bertram C. Frey, attorney in EPA Region V's enforcement division, said a 30-day Notice-of-Violation has been issued to the plant because it is emitting 1,685 tons of hydrocarbons when the allowable limit is 253 tons per year.

Minnesota Dept. of National resources Agrees to Halt Brush Control Spraying

According to the *Duluth News Tribune*, the Minnesota Department of Natural Resources has agreed to halt brush control spraying on forest management lands in seven Northeastern Minnesota countries. The halt was requested by Minnesota Governor Rudy Perpich.

Acting DRN Commissioner Michael O'Donnel said his department will also conduct a study of the herbicides. O'Donnel expects the study to be completed by Feb. 1.

Gov. Perpich said he has ordered the DNR to halt all aerial spraying in state forests in Cook, Itasca, Koochiching, St. Louis, Carlton, Aitkin, and Lake countries, Minn.

Last year, the governor banned herbicide use on state building grounds for one year.

Earl Adams, director of the DNR's division of forestry, said herbicides kill or stunt weeds and underbrush by removing their leaves, thus providing space of continued growth of larger type trees.

Excessive Hydrocarbon Pollution

U.S. EPA's air enforcement, Region V, is not happy with Michigan's Air Pollution Control Commission (MAPCC).

Air Enforcement Chief David Kee announced that an enforcement action was being brought against MAPCC.

The commission okayed the expansion of General Motors' Lansing Fisher Body Division paint body shop in an area not meeting current minimum hydrocarbon air pollution health standards.

U.S. EPA objected to the construction of the body shop because it would throw off 5,200 tons of hydrocarbon pollutants per year, while the allowable limit is 990 tons per year.

Kee explained that new sources are required to not interfere with the attainment of national air quality standards.

Briefs

PBB residues discovered in New Jersey

Residues of the toxic chemical polybrominated biphenyls — PBBs — have been found in human hair, fish, plants, soil and water in the vicinity of two PBB manufacturing plants in northern New Jersey, Douglas M. Costle, U.S. EPA administrator announced in June.

The plants are the White Chemical Company in Bayonne and the Hexcel Corporation, Fine Organics Division in Sayreville.

Both plants in 1976 manufactured PBBs, an industrial flame retardant for plastics, for export to Europe. The combined production of the plants was one million pounds in 1976.

This marks the first time PBBs have been discovered in the environment outside of Michigan, where widespread contamination of dairy herds and food occurred in 1974 when the PBBs from the Michigan Chemical Company were inadvertently mixed with animal feed.

Sewage plant trouble-shooting seminars scheduled

The Environmental Protection Agency is trying to promote involvement by the private sector in the proper operation and maintenance of sewage treatment plants. The Agency will hold a series of seminars this year to help familiarize private consulting engineers with municipal treatment plant trouble-shooting techniques.

The first seminar was held in San Francisco on July 6-7, 1977. Other planned seminars include Dallas on July 26-27; Chicago on August 23-24; and New York City on September 13-14, 1977.

EPA set up the seminar series in response to a recent Agency survey which showed that many new sewage plants are not performing up to par in treating municipal wastewater. The Agency believes that the use of proper operation and maintenance techniques could remedy many of these problems. Doing this would be easier, the Agency thinks, if the private sector were more familiar with how to prevent and remedy treatment plant problems.

The seminars will discuss the role of consulting engineers and equipment suppliers in helping to insure that new Federally-funded treatment plants achieve water clean-up objectives quickly and efficiently. Specifically, the series will address resolving plant operational problems in such areas as biological process operations (trickling filter and activated sludge), anaerobic sludge digester operations, and the operation of small packaged treatment systems for use by small communities. Discussion will also focus on operation and maintenance requirements of EPA's construction grants program. In this regard, participants will address the role of the private sector in meeting EPA requirements for the "Plan of Operations" for each plant.

The seminars are sponsored by the Municipal Operations Branch, EPA Office of Water Program Operations. The seminar program is staffed with EPA Headquarters and Regional personnel, consulting engineers and wastewater equipment suppliers. Additional information may be obtained by contacting Walter Johnson, EPA Municipal Operations Branch (WH-596), 401 M Street, S.W., Washington, D.C. 20406, telephone (202) 426-8703.

Vinyl chloride limits proposed

Stricter limits are being proposed by U.S. EPA on the amount of vinyl chloride emissions permitted from the approximately 60 ethylene dichloride, vinyl choloride and polyvinyl choloride plants in the United States.

The proposed limits will require increased efficiency of emission control equipment at existing plants and impose more stringent emission limits for new plants. It will also prohibit emission increases within five miles of an existing plant due to either expansion of that plant or the construction of an entirely new plant.

The new limits were proposed as amendments to the vinyl chloride regulations issued under the Clean Air Act in October 1976. They are the result of an out-of-court settlement between EPA and the Environmental Defense Fund in which EPA agreed to proposed stricter emission limitations.

Cincinnati citizen meeting set for July 25

Citizen and legislative accountability and information sessions will be sponsored by EPA Region V, during July.

July 25 in Cincinnati, Ohio, EPA will sponsor an American Environmental Forum. The meeting, one of a continuing series being held across the country by U.S. EPA, will be held at 7 p.m. at Cincinnati's Queensgate II Town Center at Ezzard Charles Drive and Central Parkway.

The public is invited to bring a picnic supper at 6 p.m. to the adjoining park to hear the Katie Laur Band.

In addition, U.S. EPA staff members will discuss environmental problems with Illinois legislators July 28 in Springfield.

The Illinois legislative workshop on federal and state environmental policy will be coordinated by the Office Intergovernmental Affairs, Region V.

Sewage solutions?

According to the *Indianapolis News*, researchers at Purdue University and the State Highway Commission have invented a small size sewage treatment water recycling unit that takes substantially smaller amounts of water.

The unit consists of nylon bags seeded with bacteria. The bacteria eats the raw sewage and then produces a clear effluent. The unit is currently being tested in public restrooms in Boone County, Ind.

Steven Reder (left) and Joe Antecki (right) adding reagents to sample taken of Grand River water, Eastmanville, Michigan.

The job goes on . . .

Students at Grand Valley State College, Allendale, Michigan found out first-hand this year, how river pollution affects the Great Lakes.

The students conducted a daily sampling program starting last summer and continuing through the long, cold winter into late spring of this year. The program was part of EPA's Great Lakes Surveillance Branch strategies to gather current monitoring data on pollution loading in the Great Lakes basin.

The students were determined to obtain samples every day in spite of frigid blizzard conditions brought on by the winter's record breaking low temperatures, explained Welburne D. Johnson of U.S. EPA's Great Lakes Surveillance Branch and Dr. William Yerkes, chairman of the Environmental Sciences Department at Grand Valley, and director of the student sampling activities. Johnson will use the monitoring data in analyzing the problems of pollution in Lake Michigan.

Emily Braden took Grand River samples for conductivity value.

Heavy snow and rigid temperatures made river sampling difficult at the Eastmanville Bridge on the Grand River, Michigan.

People

"There's still a lot of PBB's in Michigan" warned Michigan farmer **Louis Trombley** at an EPA Environmental Town Meeting in Grand Rapids in June. Trombley says three generations of his family have suffered serious health problems because of PBBs in their dairy cattle . . .

Environmentalists as well as her colleagues in the Conservation Department of the United Auto Workers are saddened by the death of **Martha Reynolds** in the last week of May. Besides educating UAW members about environmental problems, Martha mobilized help for many citizen groups and frequently participated personally in hearings, meetings or wherever environmental problems were being debated. She is survived by her husband Hollis, son Royce and daughter Holly Pruitt of Grand Rapids.

The Buick Division of General Motors dedicated new water pollution control facilities at its Flint, Michigan plant on June 17. The new facilities consist of aeration lagoons for water purification. Announcement was made by **D.C. Collier**, General Manager of the Flint plant.

Bob Faw of WBBM-TV, Chicago, won an award for the best feature story or mini series within a newscast for a series on the dangers of the chemical PBB. The award was presented during the Chicago area local Emmy awards dinner this Spring. The board of governors of the Chicago chapter of the National Academy of Television Arts and Sciences present Emmys in the Chicago media area.

Federal Register

May 4, 1977 — Rules: Water pollution; effluent guidelines for certain point source categories: Oil and gas extraction, onshore segment; extension of time. **Proposed Rules:** Water pollution; effluent guidelines for certain point source categories: Oil and gas extraction, onshore segment; extension of time. **May 5, 1977 — Rules**: Air quality implementation plans; various States, etc.: Alabama. **Proposed Rules:** Air quality implementation plans; various States, etc.: Iowa. **Notices**: Air pollution; standards of performance for new stationary sources: Alabama, authority delegation; Air quality implementation plans; various States, etc.: Colorado, required revisions. **Meetings:** Environmental Measurements Advisory Committee; Automotive Catalytic Converter Exhaust Studies Subcommittee. **Pesticide registration:** Applications; Pesticides; specific exemptions and experimental use permits: Freers Elm Arrester et al; Stauffer Chemical Co. et al. **May 6, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: Ohio. Ocean dumping; municipal sewage sludge dumping, relocation; hearing. **Notices:** Environmental statements; availability, etc.: Sooner Generating Station, Units 1 and 2, Noble and Pawnee Counties, Oklahoma. Pesticides chemicals; tolerances, exemptions, etc.; petitions: Elanco Products Co. **May 9, 1977 — Notices:** Pesticide applicator certification and interim certification; State plans: Alaska. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Chevron Chemical Co. **May 11, 1977 — Rules:** Air quality implementation plans; various States, etc.: Arizona, California (6 documents). **Notices:** Meetings: FIFRA Scientific Advisory Panel. Pesticide registration: Grotan Dr-35. Pesticides; specific exemptions and experimental use permits: Elanco Products Co. et al; correction. Washington State Department of Agriculture. **May 12, 1977 — Proposed Rules**: Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Acetic anhydride, et al. **May 16, 1977 — Rules:** Air pollution control, new motor vehicles and engines: High altitude vehicles, sale; clarification of designated locations; correction. Waste management, solid; identification of regions and agencies; interim guidelines. **May 18, 1977 — Rules:** Air quality implementation plans; various States, etc.: California, Maryland, Nebraska, New York. Grants; environmental financing: Treatment works construction loan guarantees. **Notices:** Pesticide applicator certification and interim certification; State plans: Maryland. **Rules:** Air quality implementation plans; various States, etc.: Massachusetts. Fuels and fuel additives: Lead in gasoline, control of. **Proposed Rules:** Ocean dumping; municipal sewage sludge dumping, relocation; hearing; correction. **Notices:** Air pollution control, new motor vehicles and engines: California; waivers. **May 20, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: Nevada. **Notices:** Air quality implementation plans; various States, etc.: Arkansas, New Mexico, Texas. Meetings: FIFRA Scientific Advisory Panel. Pesticide applicator certification and interim certification; State plans: Colorado; extension of time. Pesticide registration: Pronamide. Water pollution control; safe drinking water; public water systems designations: Mississippi. **May 23, 1977 — Rules:** Air pollution; standards of performance for new stationary sources: Opacity standards and maintenance requirements, compliance. **Proposed Rules:** Air pollution; standards of performance for new stationary sources: Reference methods. Water pollution; effluent guidelines for certain point source categories: Meat products and rendering industry; processing plants. **Notices:** Pesticide applicator certification and interim certification; State plans: Minnesota. Pesticide chemicals; tolerances, exemptions, etc.; petitions: BASF Wyandotte Corp. Pesticides; specific exemptions and experimental use permits: Abbott Laboratories, Agriculture Department, Army Environmental Hygiene Agency, Zoecon Corp, et al. **May 24, 1977 — Proposed**

Rules: Air quality implementation plans; various States, etc.: California (2 documents), Oklahoma. Pesticide chemicals in or raw agricultural commodities; tolerances and exemptions, etc.: Inert ingredients. Toxic substances: Polychlorinated Biphenyls (PCBs). **May 25, 1977 — Proposed Rules:** Air pollution control, new motor vehicles and engines: Emission control system performance warranty (2 documents). **Notices:** Pesticide applicator certification and interim certification; State plans: Puerto Rico. Pesticide programs: Toxaphene, pesticide products containing; rebuttable presumption against registration and continued registration. **May 26, 1977 — Rules:** Air quality implementation plans; various States, etc.: North Dakota. Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Bentazon. Water pollution; effluent guidelines for certain point source categories: Textile industry. **Proposed Rules:** Air quality implementation plans; various States, etc.: California (9 documents). **May 27, 1977 — Proposed Rules:** Air quality implementation plans; preparation, adoption, and submittal: Inspection/maintenance program; correction. Air quality implementation plans; various States, etc.: California (2 documents). Noise abatement programs: Low noise emission products; criteria and data requirements. **Notices:** Environmental statements; availability of agency comments. Meetings: Science Advisory Board, Ecology Advisory Committee. Pesticide products, minor use registration; priority needs, National list; additional information. **May 31, 1977 — Rules:** Air quality implementation plans; various States, etc.: Ohio. **Proposed Rules:** Air quality implementation plans; various States, etc.: California (4 documents). Noise abatement programs: Construction equipment; portable air compressors. Transportation equipment; trucks, medium and heavy. **Notices:** Air pollution control, new motor vehicles and engines: Light duty vehicles and trucks, certification; intent to develop rulemaking. Air quality implementation plans: Vapor recovery, State II; gasoline stations; certain final compliance dates, deferral. Environmental statements; availability, etc.: Jackson wastewater treatment system, Wyoming. Orange County, Calif., County Sanitation Districts Wastewater Management Program. Southern Kennebec Valley, Water Quality Management Plan, Maine. Meetings: State-Federal Water Programs Advisory Committee. Pesticide programs: Diallate, pesticide products containing; rebuttable presumption against registration and continued registration. **June 1, 1977 — Rules:** Air quality implementation plans; various States, etc.: Iowa, Texas. **June 2, 1977 — Rules:** Air pollution control, new motor vehicles and engines: Certification and test procedures; technical changes, emission defect reporting. Air quality implementation plans; various States, etc.: California. **Proposed Rules:** Air pollutants, hazardous; National emission standards: Vinyl chloride. **Notices:** Noise abatement and control, national strategy for; availability of document. Pesticides; specific exemptions and experimental use permits: Idaho State Agriculture Department, Washington State Department of Agriculture. Water pollution; effluent guidelines for certain point source categories: Pulp, paper and paperboard; variances, recommended decision. **June 3, 1977 — Rules:** Air quality implementation plans; various States, etc.: Missouri. Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Bacillus thuringiensis, Berliner. **Proposed Rules:** Air quality implementation plans; various States, etc.: Arizona, California, Massachusetts. **Notices:** Air pollution; ambient air monitoring reference and equivalent methods (2 documents). Meetings: FIFRA Scientific Advisory Panel. **June 6, 1977 — Rules:** Air quality implementation plans; various States, etc.: California. **Proposed Rules:** Air pollution control, new motor vehicles and engines, and fuel economy: Emissions standards and fuel economy; 1978 and later model years. **Notices:** Air quality criteria for atmospheric lead; External Review Draft No. 2, availability. Environmental statements; availability, etc.: Denver Regional Wastewater Facilities; lime manufacturing plants; wastewater treatment facilities, Henrico County, Va.; water quality management plan, El Paso and Teller Counties, Colo. Meetings: Science Advisory Board, Scientific Criteria for Environmental Lead Subcommittee. **June 7, 1977 — Rules:** Air pollutants, hazardous; National emission standards: Vinyl chloride; editorial changes. Air quality implementation plans: Gasoline vapor recovery; final compliance date for small bulk plants. **Notices:** Pesticide registration: Kill-Ko 50% Methoxychlor et al. **June 8, 1977 — Notices:** Air pollutants, hazardous; National emission standards: Benzene. Air pollution control, new motor vehicles and engines: Certification test results for 1977 model year. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Ciba-Geigy Corp. Pesticide registration: Applications, ARQUAD DMCB. **June 9, 1977 — Rules:** Grants, State and local assistance: Municipal waste water treatment facilities construction.

Environment Midwest is a monthly newsletter published by the Public and Intergovernmental Affairs Office, Region V, U.S. EPA, 230 S. Dearborn, Chicago, Ill. 60604

George Alexander, Jr. — regional administrator
Val Adamkus — deputy regional administrator
Frank Corrado — public affairs director
Bill Omohundro — editor
Kathy Brown — briefs editor
Phyllis Kierig — production editor

Region V of the U.S. Environmental Protection Agency is developing a new policy on public participation. We are at an early stage and are very interested in your written comments on new directions we might take.

Possible components of a new public participation program here in Region V might include:

1. **a new overall policy and blueprint for action**
2. **a monthly calendar of events in this magazine to help people know what's going on**
3. **regional office and field office briefing for the public.**

At present, public participation in EPA and at the State level is decentralized with responsibility resting with each program official. We are considering establishing a central monitoring function and also an easy-to-understand way of showing people just how their comments and opinions actually affect the decision-making process here in EPA.

We have had an extensive outreach program in the past year to meet people and learn what's on their mind via visits and televised town meetings in many Region V cities. And we continue to look for new ways to give people a chance to speak their mind on agency programs which affect them.

We are also trying to define "public". Whether that means everybody or a particular group such as farmers, businessmen, community leaders and so on and when each group should be involved. And we are trying to find a way to distinguish between those who really want to participate and those who just want to be kept informed of what's going on.

These are difficult questions. We're anxious for your ideas and suggestions for improving our public participation program. Please send us your thoughts and comments: Public Affairs, EPA, 230 S. Dearborn, Chicago, Illinois 60604. We'd like them by the first of August. Thank you.

Sincerely,

Frank M. Corrado
Director, Office of Public
and Intergovernmental Affairs

JULY 19 PCB MEETING, IN CHICAGO, ILL. CALL 312-353-2072

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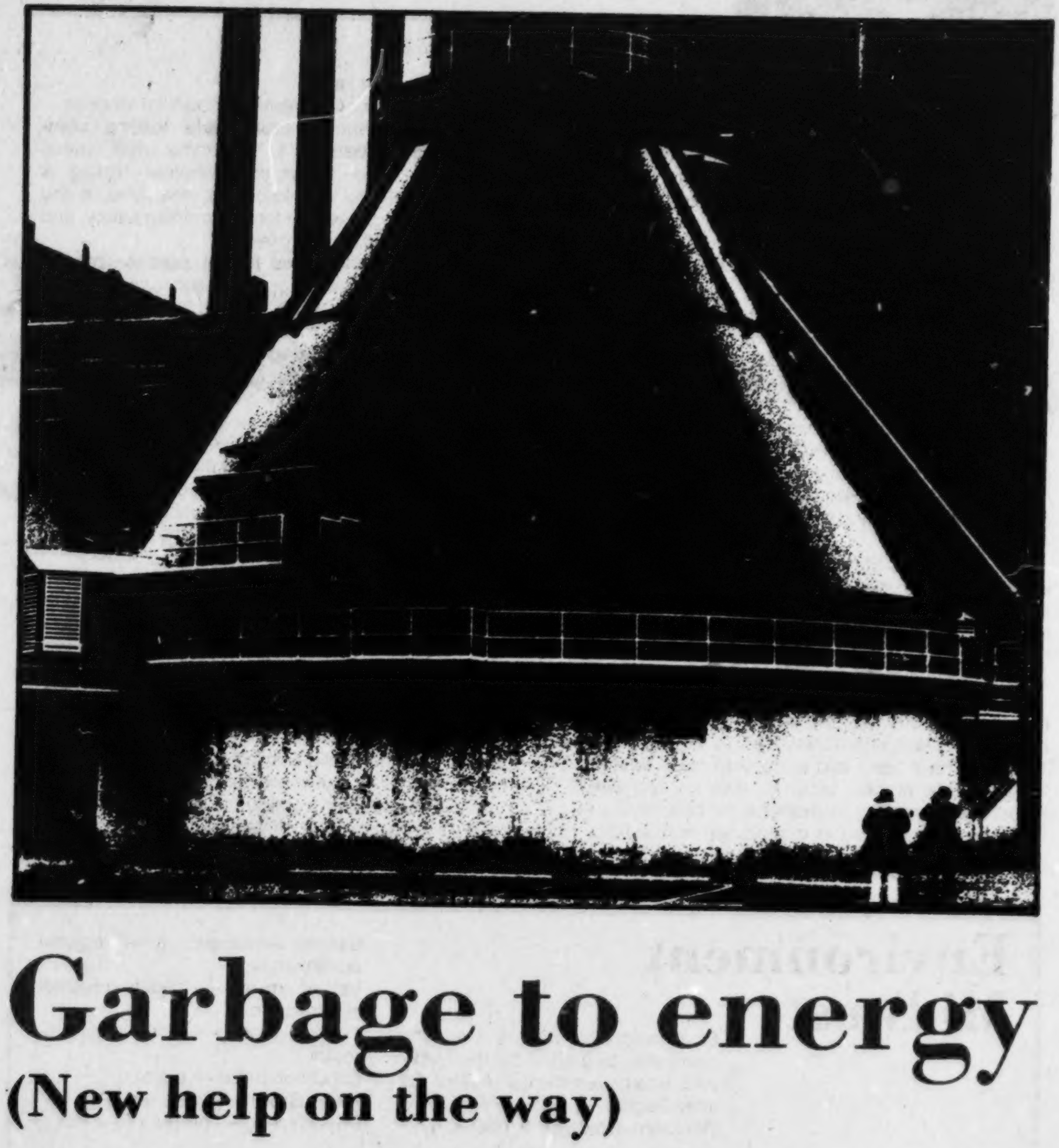
Environment Midwest

AUGUST 1977



Garbage to energy

(New help on the way)

8-1

Administrator, Region V

George Alexander, Jr.

Cooperation has become the watchword for E.P.A. and three other Federal Agencies charged with protcting public health.

E.P.A., the Food and Drug Administration, the Consumer Product Safety Commission and the Occupational Safety and Health Administration announced in early August some important cooperative initiatives designed to reform the regulatory process and improve protection of the worker and the public.

As soon as a plan of action is ready, **Environment Midwest** will provide you with a report.

Administrator Costle, FDA Commissioner Donald Kennedy, CPSC Chairman S. John Byington and Assistant Secretary of Labor for OSHA Eula Bingham said at a joint press conference: "The President during the campaign promised the American people that waste and duplication in the Federal government would be eliminated wherever possible. He is committed to improving the management of the government.

"Our Agencies often deal with many of the same issues and the same industries, and they often have the same research, regulatory and enforcement objectives. It's time we planned and worked together," they said, "to streamline our regulatory processes and maximize our resources."

As a first step, the Agency heads have directed their field staffs across the country to develop common action plans within thirty days to meet this goal. The staffs have been told to develop plans to share facilities, laboratories, vehicles, libraries and other resources, as well as to examine the possibilities of increased cooperation in compliance and enforcement and alternative ways to reduce the burden on the regulated industries.

The joint Agency initiatives announced include:

- **development of compatible testing standards and guidelines** to determine what criteria should be used in deciding whether testing is needed, what tests should be run, what amount and type of data is necessary for determining safety, and how data should be interpreted;
- **risk and safety and health assessments** to decide what data each agency needs to determine a "risk", what methods will be used, and how the results will be announced;
- **information sharing** to include use of each Agency's current systems and to determine if a national information system on toxic substances is needed and if so how it can be developed;
- **research planning** to include a review of each agency's research needs, and a determination of the cost and effectiveness of cooperative research;
- **regulation development** to include improved cooperation among the agencies in the development of regulations;
- **compliance and enforcement** to include a review of how field personnel can jointly contribute to the mission of all four agencies, and whether laboratory as well as other facilities could be shared, and,
- **interagency communication and public education on the regulation of toxic substances** to examine the possibilities for joint exchange of information with the public and industry through publications, seminars, conferences and hearings.

We are presently working closely with our counterparts in Region V to implement these cooperative initiatives at the Regional level.

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Letters

Dear Sir:

Your June issue, with its feature on journalists assessing the environment's future, is quite interesting — and revealing.

Reading it, one would assume that little or no environmental reporting was done prior to the Earth Day teach-ins in 1970, or shortly before. You refer to the "old hands," who have been writing about the environment for "10 years or more."

If your concern is only with the word "environment," you may have a point. It is a relatively new descriptive name which has come into vogue only in the past decade.

But there is a great body of reporters who have been covering the same concepts under the name of "conservation" for many years. These are the members of the outdoor press, many of whom consistently reported on environmental concerns long before the word became timely. True, some of the so-called outdoor editors concerned themselves only with hunting and fishing and similar pursuits, but the more perceptive of that corps were reporting on pollution, endangered species, soil erosion, wildlife management, water quality, preservation of natural beauty, and, yes, even such things as population problems and planning issues.

An excellent example of such is Ben East, one of the first newspaper "outdoor editors" in the country, who began his career on the *Grand Rapids Press* in 1926, and served as the outdoor editor not only of that paper, but also the whole Booth Newspapers group in Michigan. He began but shortly after Albert "Pete" Stoll first started his outdoor page in the *Detroit News.*

A couple of years ago our own paper was writing a history for the city's sesquicentennial, and I went back in the old microfilms to look at some of Ben's early writing. Surprisingly, even at that time, he was doing a lot of work on what could only be called "conservation" or "environmental" issues, and he continued to do so all the while he was at Booth. In 1945 he went to *Outdoor Life* as a field editor, and while at that publication he did some outstanding reporting of national environmental interest.

There have been countless others in the outdoor press who have been covering such issues for a generation or more, and if you go back to the previous century you will find precursors in such publications as the old *Field and Stream* magazine, and others who served in some of the conservation magazines, newsletters, and in public information posts for Audubon, Izaak Walton, etc.

I consider myself a relative newcomer in the field, and yet I've been writing a weekly column, mostly on conservation (now environmental) since 1962, and the issues discussed in that column have not changed appreciably since the beginning of it. When the University of Michigan here in Ann Arbor put on the first of the national teach-ins (ours labelled "ENACT") I used the opportunity to get the editors to give me more space, and with the publicity from that event we began to get more people interested in the subject, but the focus itself remains the same.

It is interesting that some journalism departments now offer special courses on environmental writing, and many of the young men and women get training in the subject, whereas most of us old-timers were either largely self-educated on the subject, or came up through the natural sciences. It is also interesting that one of the first of these combination journalism/natural resource courses of study began here at the U-M, and was coordinated by the recently retired outdoor editor of the *Detroit Free Press*, Jack Van Coevering.

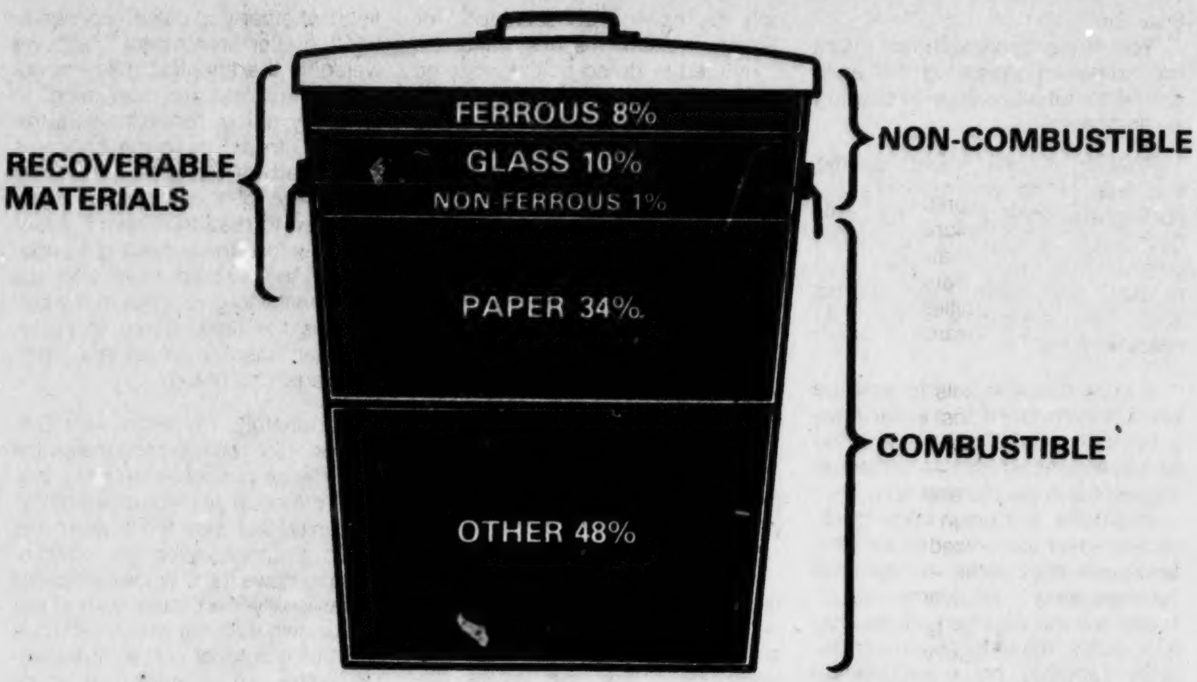
In short, we of the outdoor press welcome these "newcomers" to the field, whether you call it "conservation" or "environmental," and we welcome the attention many newspapers editors are beginning to show by hiring "environmental reporters" to aid us in the concerns we've had for many years. It's too bad some of those editors never bothered to read their own outdoor pages before the subject got popular, or they would have had the good sense to give some of my colleagues the time, space, opportunity and display to expand their coverage long before.

Fortunately, my editor (Art Gallagher, now retired) recognized the importance of such quite early, and gave me not only the space and opportunity, but also the trust to develop a conservation (or environmental) news page whose editorials occasionally conflicted with those of our own editorial writer. (To have a full-time outdoor and environmental editor on a paper of some 40,000 circulation is still rather unusual.)

Anyway, welcome to those featured in your article. We need all the help we can get. Just remember, though, that the history of reporting the environment didn't begin in 1970.

Sincerely,
Doug Fulton
Outdoor Editor
The Ann Arbor (Michigan) News

Your letter is appreciated. **Environment Midwest** *salutes the dedicated outdoor writers who have been working diligently for generations to protect our environment.*


COMPOSITION OF MUNICIPAL SOLID WASTE

Waste to Watts

Resource recovery is garbage.

It is an idea that has caught the fancy of the American public.

The concept of making garbage into energy and saving valuable materials intrigues our nation's problem solvers.

The realities of reclaiming resources and energy from garbage are one of the problems that daily confront some members of Region V, U.S. EPA's waste management team members.

"During last winter's energy crunch," says Karl Klepitsch, Chief of Region V's Waste Management Branch, "people were burning oil and coal that was dirtier than their garbage."

Garbage is a valuable resource for America, says Klepitsch. Yet EPA data reveal that by 1985, America will throw away almost 200 million tons of trash a year.

Today, roughly 70 to 80 percent of urban waste is combustible. One solution would be to burn it for its BTU content, suggested Klepitsch. Each person disposes daily 3.5 pounds of refuse which has the energy value of 1.5 pounds of coal.

In 1973, the United States could have saved the equivalent of approximately 200 million barrels of oil if it had been able to reuse the 135 million tons of garbage generated across the nation.

In addition, 12 million tons of steel, one million tons of aluminum and 200,000 tons of copper were thrown away in 1973, because the great majority of garbage was not reused.

Resource recovery can be a significant element in a community's own solid waste management program. Congress formally recognized this concept when it passed the Resource Conservation and Recovery Act of 1976 last fall. Besides calling for the closure of all open dumps in the country and the development of statewide solid waste and hazardous waste plans, RCRA promotes the development of resource recovery systems wherever economically feasible. Specifically programs for technical and financial assistance are authorized.

As the "Chief of Recycling and Reuse" in Region V, Klepitsch assembles technical assistance teams to help communities in evaluating resource recovery alternatives.

EPA staffers stressed that these teams cannot replace a community's staff or consultants they might hire, but they would be able to provide objective oversights of technical and financial plans which a community is considering.

"We do not have sufficient resources to replace consultants," said James Chambers of Region V's Waste Management Team, "but we can provide communities with procurement and technical assistance."

Currently, the Waste Management Branch is working without any funds for direct financial assistance to communities investigating resource recovery. Starting in fiscal year 1978, though, Chambers said EPA will have enough money to fund Resource Recovery and Conservation Panels mandated by Congress.

The Panels are the structure which Congress proposed to give assistance to communities in their long and detailed explorations of resource recovery alternatives.

In addition, the Panels will be able to help communities with landfill designs and hazardous waste disposal.

Currently, EPA feels there is no universally best or most economical recovery technology. Both low technology options — such as source separation and recycling centers — and high technology systems — mechanized processing and separation plants — have their advantages and disadvantages.

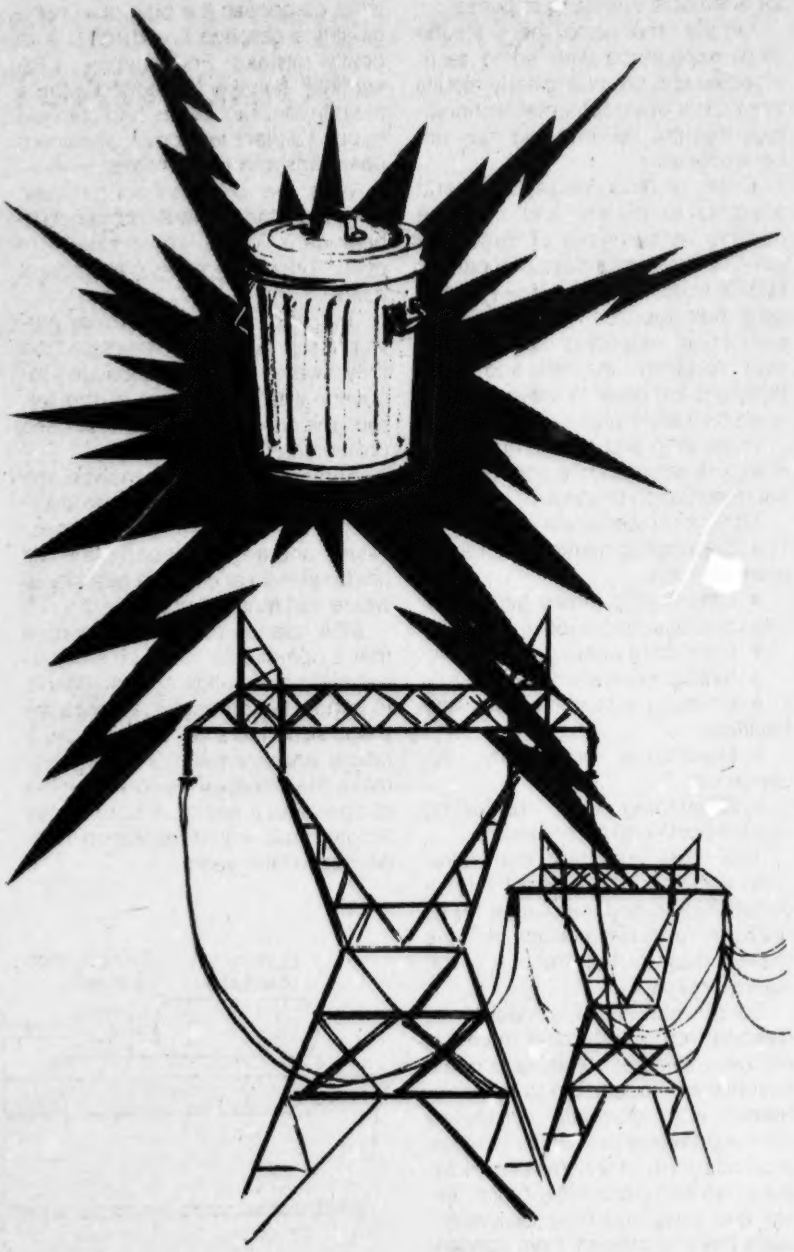
Every community facing a resource recovery decision must consider its own unique situation when selecting a course of action.

Factors which must be evaluated include available markets for recovered materials, capital and operating cost projections, level of risk which a community is willing to assume, and financing and management of alternatives available for different systems.

Unfortunately, goals often conflict, making a choice more difficult. For example, the recovery system with the lowest projected net cost may involve the highest degree of technological uncertainty. Or, the system recovering products which can be most readily marketed through firm contracts may have the highest projected costs.

The final decision is subject to specific value judgement which each community must make on its own.

In a recent two-day resource recovery seminar held in Chicago, EPA personnel emphasized that resource recovery justified its high equipment costs if it could pay for itself through the sale of energy or the recovery of valuable metals, glass or paper.



A separate line of thought at the seminar, though, says resource recovery operations are justifiable just because inexpensive landfill sites are diminishing and because it is wasteful to bury valuable resources in the ground. Resource recovery processes substantially reduce the amount of garbage necessary for disposal.

Many resources recovery high technology options are still in a relatively early state of development and thus represent a risk. Such risk includes the possibility that equipment will not perform as designed, that products will not meet market specifications, and that consequently, a city will suffer an economic penalty. The penalty could range from a major capital loss for a plant that will not function properly and must be written off, to an increase of a few dollars in net costs for additional operating expenses.

On the other hand, there is sufficient experience with some technologies and promising early results from other developmental technologies that the risk involved may not be reasonable.

Costs of resource recovery and attempts to predict and compare costs of various types of plants in a general way, regardless of local circumstances, are more likely to mislead than inform. The range of assumptions regarding specific design, reliability, markets and other factors is too great to make such an analysis meaningful.

Evaluating and selecting a technology is only part of a community's implementation process.

Other considerations include:

- Developing markets for recovered products;
- Determining waste generation rates and assuring supply;
- Estimating waste composition;
- Evaluating system reliability;
- Locating a plant and auxiliary facilities;
- Maximizing community acceptance;
- Developing and projecting system costs and revenues.

The most important consideration, explained Chambers, is for a community to find the market for its resource recovery product, be it the metals, glass or fuel fraction of the waste stream.

To be marketable, products reclaimed from energy and materials recovery systems must have qualities that are acceptable to the user. Steam and electricity produced from solid waste are similar to those products from other sources. However, refuse based fuels (solid, liquid and gaseous) have characteristics that are different from conventional fossil fuels, including: ash content, higher heating value, corrosiveness, viscosity, and moisture content.

"One of the problems some communities must address," said Chambers, "is that usually there is less garbage in the winter months than in the summer." If you are trying to sell steam for heating, there is clearly a greater demand for steam in the winter months than in the summer, Chambers noted.

Failure to adequately account for what composes the bulk of a municipality's garbage could result in a costly mistake. For example, EPA seminar speakers reported that a town in Massachusetts had planned to build a plant to recover aluminum beer cans and other metals.

What the town had not foreseen was that there were not enough beer cans in the waste stream to even offset recovery equipment costs.

In contrast, another seminar participant in northern Minnesota said they were jubilant because recovery was 60 percent of the ferrous metals intake when it had been projected at only 28 percent.

Another reason to analyze the amount of garbage is that an oversized plant will cost more than necessary and an undersized plant will not be able to accept the quantity of waste that must be processed.

EPA planners express worries that a community could be stuck financially if it builds a plant unable to handle the garbage load because it was sized too small or too large. A refuse analysis helps a community make the decision as to what type of operation it needs. A bare bones facility could cause operation headaches in later years.

EPA assistance personnel stress that a resource recovery plant must be flexible so that it can take all the waste a community produces on high and low volume days.

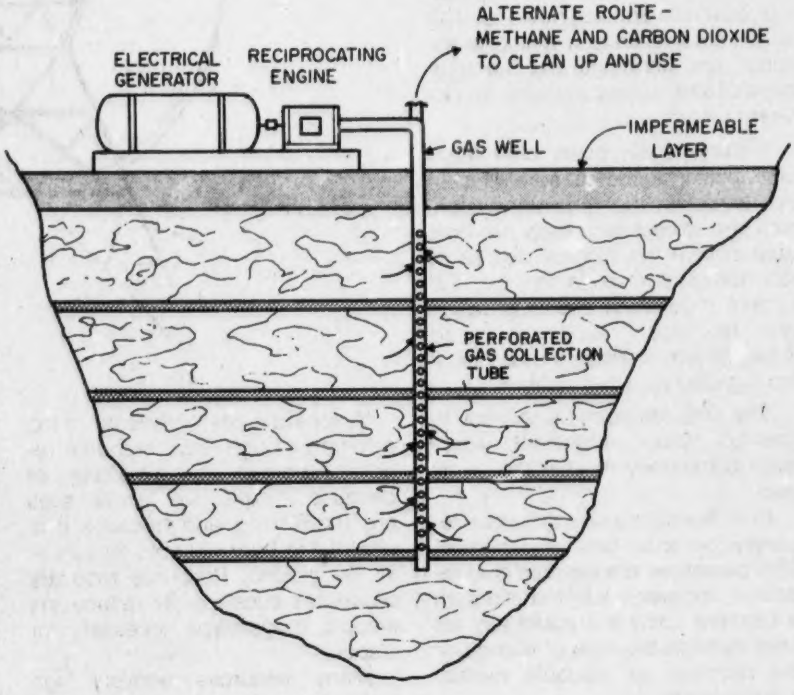
Reliability can be achieved by a combination of the following:

1. Operational dependability of the equipment;
2. Redundancy of equipment or process lines;
3. Storage capacity, combined with excess processing capacity to handle backlogs and current demands.

In turn, a plant site should be tied to the potential market for the product and accessibility of the refuse trucks to the resource recovery center.

Finally, a resource recovery system hinges on the groundwork laid by community officials with the residents.

EPA experience has revealed that decision-makers must initiate aggressive communication with the public to prove to them that their concerns will be met and their interest will be protected. The caliber, timing, and extent of this effort may be the most critical task in successfully implementing a new solid waste disposal facility.


ALTERNATE ROUTE - METHANE AND CARBON DIOXIDE TO CLEAN UP AND USE
ELECTRICAL GENERATOR
RECIPROCATING ENGINE
GAS WELL
IMPERMEABLE LAYER
PERFORATED GAS COLLECTION TUBE

Production of electricity from land fill

Technology

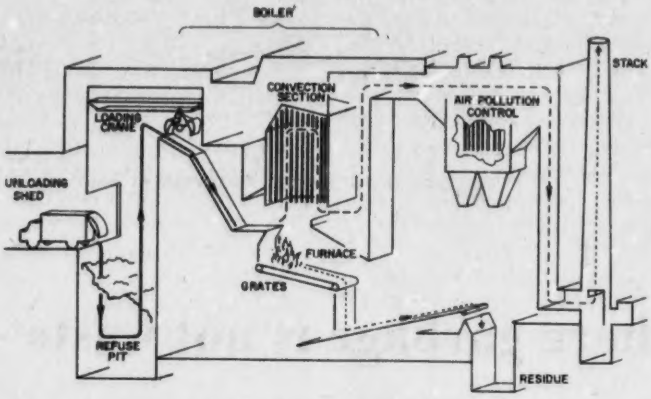
Direct burning of mixed refuse, with the recovery of energy in the form of steam, has been successfully demonstrated at numerous facilities in Europe and Asia.

The recovery of energy from refuse is, in most instances, the key to an economically successful project. Descriptions of the major energy recovery processes follow.

Waterwall Incinerators

Commonly called "waterwall incinerators," these systems involve burning of solid waste in a specially designed furnace jacketed with water filled tubes, and incorporating other boiler tubes to recover heat. In most systems, solid waste is burned without prior processing, on mechanical grates which move it through the furnace.

A relatively recent innovation to this process involved the burning of shredded waste using semi-suspension type spreader stokers. In both types of systems, little or no supplemental fossil fuel is used and heat is recovered as steam which can be used directly or to drive a turbine to generate electricity.

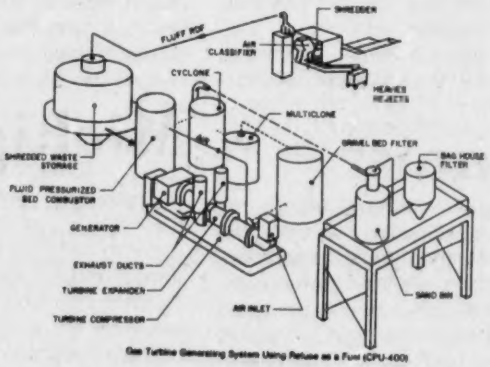

BOILER
STACK
CONVECTION SECTION
AIR POLLUTION CONTROL
LOADING CRANE
UNLOADING SHED
FURNACE
GRATES
REFUSE PIT
RESIDUE

Typical Waterwall Furnace for Unprocessed Solid Waste

Solid Refuse Derived Fuel

RDF systems feature a process line employing size reduction and classification of waste to produce both a combustible fraction and a "heavies" fraction which may be processed for materials recovery.

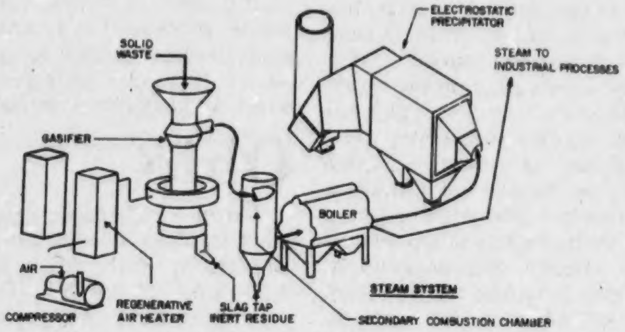
These systems are also called supplemental fuel systems since the combustible fraction would typically be marketed as a supplement to coal or oil in private industry a utility boilers.


SHREDDER
FLUFF RDF
AIR CLASSIFIER
CYCLONE
HEAVIES REJECTS
MULTICLONE
GRAVEL BED FILTER
BAG HOUSE FILTER
SHREDDED WASTE STORAGE
FLUID PRESSURIZED BED COMBUSTOR
GENERATOR
EXHAUST DUCTS
TURBINE EXPANDER
TURBINE COMPRESSOR
AIR INLET
SAND BIN

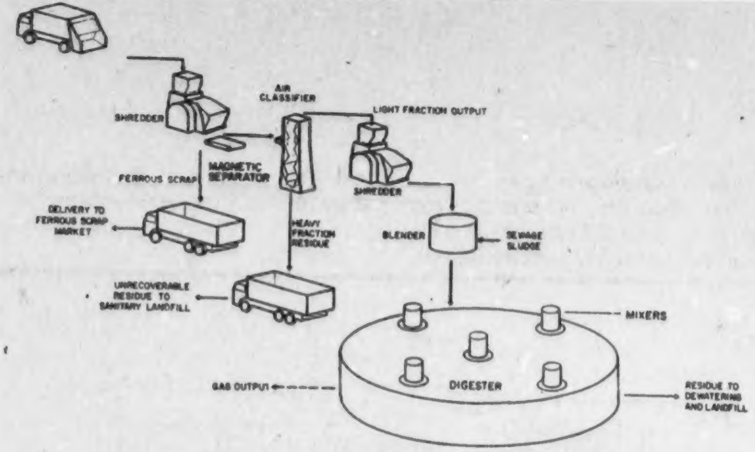
Gas Turbine Generating System Using Refuse as a Fuel (CPU-400)

Pyrolysis System

Pyrolysis is a broad term given to a variety of processes where either processed or unprocessed waste undergoes combustion in an oxygen deficient atmosphere. This results in the production of combustible gases or liquids. These fuels may be either burned immediately to produce steam, or, if the quality is high enough, may be transported or stored for use in other markets.


ELECTROSTATIC PRECIPITATOR
SOLID WASTE
STEAM TO INDUSTRIAL PROCESSES
GASIFIER
BOILER
AIR
STEAM SYSTEM
COMPRESSOR
REGENERATIVE AIR HEATER
SLAG TAP INERT RESIDUE
SECONDARY COMBUSTION CHAMBER

Torrax Slagging Pyrolysis System



Biological Gasification of Solid Waste in Reactors

Biological Gasification

Biological conversion is an experimental system which involves the decomposition of solid waste by bacterial action to produce combustible gases. These gases could be burned immediately to produce steam or transported for use elsewhere if their quality is high enough. Biological conversion occurs in landfills, and gas wells may be used to collect gas if conditions are correct.

Where garbage is not waste — Midwest plants

Region V is one of the most active regions in the country in the implementation of resource recovery projects. Besides the projects described below, there are a large number of communities making significant progress in the procurement of systems which can substantially reduce refuse quantities while recovering valuable materials and energy.

Illinois

Chicago — Two major resource recovery facilities are owned by the City of Chicago. The Northwest Incinerator has been in operation for six years. It was originally designed to simply burn garbage to greatly reduce its bulk. All the garbage is burned. The steam produced by the garbage has not been marketed before this year, although the city has used the steam to meet in-plant steam and electrical needs.

In its newest plant on the southwest side which opened in October of 1976, the City will process 1,000 tons a day of mixed municipal refuse. The facility will provide a supplemental fuel for an adjacent Commonwealth Edison Generating Station, and will recover up to 70 tons a day of ferrous metals. Commonwealth Edison is the major investor-owned utility in the Chicago area. The plant will save the City an estimated $600,000 a year in operating costs compared to an older incinerator disposal system of equal capacity which is being closed down. At the same time, Chicago officials estimate that the plant will return close to $1 million a year in revenue from the sale of the recyclable metals and the processed Refuse Derived Fuel (RDF).

Michigan

Detroit — U.S. EPA gave the City of Detroit an implementation grant to help the City evaluate their formal request for proposals (RDF). Currently, Detroit is negotiating with one firm to design, construct and operate the plant over a 20-year period. The proposed plant will process 3,000 tons a day of refuse and recover ferrous metals. The waste will be processed to produce RDF which will be burned to generate steam. Two potential buyers of the steam are under consideration.

Ohio

Akron — A resource recovery plant is under construction in the Opportunity Park Urban Renewal area, west of the B.F. Goodrich plant. It will burn garbage and trash and produce steam for sale to customers in and near downtown. The Ohio Water Development Authority issued the bonds for the $46 million plant. The City will pay back the bonds at an interest rate of eight percent.

The Akron plant will use steam boilers of the waterwall industrial type boilers designed for solid fuels. The sytem's shredders will reduce the waste to approximately two inches in size with little surface moisture or odor. Magnetic separation will remove ferrous metals. Shredding increases the salability of the scrap for recycling.

Franklin, Ohio — EPA tested a pilot plant for the feasibility of the wet processing of municipal refuse with the recovery of paper fiber, waste glass, and aluminum. In addition to EPA and the City of Franklin, Ohio, the Glass Packaging Institute and the Black Clawson Company participated in the two-year project.

The project demonstrated that it is possible to sort glass into a flint fraction and mixed color fraction. The flint fraction was found to meet proposed color specifications of the Glass Packaging Institute. The mixed color glass may be acceptable to some container manufacturers for use in making green or amber glass.

However, for the glass products to be more salable, EPA officials believe their product quality must be improved, and the contamination of the glass product by ceramic materials must be reduced.

St. Paul — The City of St. Paul has selected Twin Resco, Inc., a joint venture of Wheelabrator-Frye, Inc., and Phoenix, Inc., to construct and operate a 1,500 ton-per-day waterwall incinerator to dispose of the city's refuse. It is expected that the Port Authority of St. Paul will arrange for the financing of the proposed $72.8 million facility. The plant would use two refuse-fired boilers to generate both extraction process steam for district heating in downtown St. Paul and electricity. Negotiations are proceeding with Northern States Power to finalize the energy contract.

Wisconsin

Milwaukee — In May 1977, Milwaukee's $18 million resource recovery plant opened. The plant was built and is owned by the Americology Division of American Can Company of Greenwich, Connecticut. The plant is capable of taking 1,200 tons of municipal garbage per day to recover a fluff-type refuse derived fuel, bundled newspaper and corrugated paperboard, aluminum and ferrous metals, and a glassy aggregate.

American Can has a 15-year contract to handle all the city-collected waste in Milwaukee. The city can buy the plant after the first five years of operation. The city will pay Americology $10 per ton, which will be adjusted periodically, for the disposal of municipal waste.

Wisconsin Electric Power has contracted to take the shredded combustible materials equal to 55 to 65 percent of the city's waste for use in supplementing coal-fired boilers to general electricity. WEPCO says use of refused derived fuel is expected to save 75,000 tons of coal per year.

The Wisconsin Solid Waste Recycling Authority, the state-created office responsible for implementing resource recovery, has issued a request for Proposals to design, construct, and operate a facility in Wisconsin's Region I — Outagamie, Winnebago, and Fond du Lac counties.

Wis. acts on hazardous waste disposal

By Renato Millan

Renato Millan is a member of the Wisconsin DNR Solid Waste Management staff.

The Wisconsin Department of Natural Resources has been operating a hazardous waste program since 1973 and has taken several steps to guide and regulate the disposal of industrial and hazardous wastes in the interim period under existing solid waste management standards.

Regulations pertaining to toxic and hazardous wastes have been incorporated into the Wisconsin solid waste management rules. Several disposal cases of hazardous waste materials entering land sites have been evaluated, systematically forcing the small sites to be closed for hazardous wastes. Materials considered to be extremely hazardous were shipped out of state to securer landfills.

The State of Wisconsin is developing hazardous wastes legislation which parallels the Resource Recovery and Conservation Act (PL 94-580). A bill has been introduced to the legislative assembly for consideration in the coming session. Under the existing regulations, the state has licensed processing facilities, transporters and landfill facilities. One processing facility is licensed and others are in the process of being licensed.

Present state rules need to be expanded to the problems and conditions in the State. This requires a classification/identification system for determining the major properties and characteristics of various waste types. In light of PL 94-580, land disposal is discouraged and process and reclamation will be encouraged.

Presently the department is in the process of performing an industrial waste survey. This will provide background information on existing guidance, pointing out areas that need more research to make hazardous waste disposal more secure and acceptable.

Congress allots more for sewage treatment

The six states in EPA Region V have received $211,282,000, or over one-fifth of a billion dollar allotment to the States and other jurisdictions, to help them carry on their sewage treatment facility construction.

The allotment of the billion dollars for the six States in Region V as announced on June 9, 1977, is as follows: Illinois, $52,151,000; Indiana, $21,713,000; Michigan, $46,897,000; Minnesota, $15,070,000; Ohio, $55,522,000; and Wisconsin, $19,929,000.

The money was appropriated by Congress under the recently enacted Supplemental Appropriations Act of 1977, and is available for three years.

Illinois is the only Region V State among 10 States that are on the verge of running out of allotted funds for continuing their programs for building waste water plants. The billion dollar supplement will provide immediate relief for those States as well as make funds available for other States to meet ongoing obligations.

With the new appropriation, the total funds made available for grants to build sewage treatment facilities, under provisions of the Federal Water Pollution Control Act of 1972, now amount to $19,480 billion. This includes $18 billion originally appropriated under the 1972 Act, plus an appropriation of $480 million to take care of inequities in previous allotments to States, provided under the Public Works Employment Act of 1976. As of June 1, only $4.5 billion remain of the original $18 billion to be obligated between now and the end of September.

The formula for distributing the funds to the States was made by Congress. State allotments were computed on the basis of the following four factors:

- 25 percent based on estimated population of the State;
- 50 percent on partial needs of a State for certain categories of facilities (secondary treatment, more stringent treatment where needed to meet water quality standards, interceptor sewers, and pumping stations);
- 25 percent on all water pollution control needs of a State;
- An allotment adjustment — to make sure that no state receives less than one-third of one percent of the total amount appropriated.

Update: Phosphate ban legislation in midwest

A ban on phosphates in detergents in the Great Lakes Basin is called for by a position paper released in June by Region V EPA.

The paper urges states to consider the bans because the rapid aging of the lakes has not been slowed enough with removal of phosphorus in sewage treatment. Wisconsin is the most recent state to join the phosphate debate.

Region V's position paper was prepared by a special Phosphorus Committee with members from several different program offices. It discusses the scientific evidence that eutrophication, or aging, of the Great Lakes will continue to accelerate unless phosphorus levels are drastically reduced.

According to the report, banning phosphates from most detergents will not only improve water quality in the lakes but will cut treatment costs. The bans are the quickest and easiest way to cut phosphorus levels in the short run, but the report calls for control of land runoff and transport of phosphorus through the atmosphere for the long run.

In Wisconsin, Representative Mary Lou Muntz, Chairman of the House Environmental Quality Committee, has introduced a bill, AB 881, to limit phosphorus in common household detergents to 0.5 percent (a trace amount). Only 8.7 percent would be allowed for machine dishwashing or cleaning medical equipment. Cleaning agents for industrial processes and dairy equipment are exempt from the limitations. There was a committee hearing in late July, and the bill will probably be considered by the full House in September.

In Michigan an administrative rule proposed by the Michigan Department of Natural Resources, will be approved on August 20 unless legislative action is taken before then. A court challenge by the soap and detergent industry is expected if the ban becomes effective.

Ohio, home of one of the biggest detergent manufacturers, Proctor & Gamble of Cincinnati, has no phosphate legislation pending. Akron, Ohio, has had a phosphate ban for more than four years.

Although Illinois does not have a statewide ban on phosphate detergents, Chicago's ban allows negligible input to Lake Michigan from the state. The Metropolitan Sanitary District of Greater Chicago estimate savings of up to $20 million a year with the ban.

Indiana and Minnesota both already have detergent phosphate bans although the Minnesota law has been enjoined for the time being in connection with a court challenge by the soap and detergent industry.

The Minnesota Attorney General estimates that because of voluntary compliance over 90 percent of the household detergents sold in Minnesota are free of phosphorus. The dispute in court is mainly over the use of phosphates in industrial and institutional cleaners.

To obtain the Region V position paper, write or call for the Department Phosphate Ban report. Contact persons are Don Wallgren, (312) 353-2300, Lee Botts, (312) 353-2072.

Briefs

Inventory reflects toxic concerns

U.S. EPA's Central Regional Lab officials conducted oxidant workshops this spring and summer for state and city ozone data gathering personnel. The workshops were initiated by CRL after an audit of sampling instruments in the region revealed that ozone instrument calibrations were 'off' in different locals. The training workshops served as the first step in gathering accurate ozone data in the midwest for an overall ozone strategy. Pictured above are CRL instructors Kendal Young (left) and Walt Kocal with Jerry Mazurek of Chicago's Department of Environmental Control.

A growing concern by States and the EPA about toxic pollutants in the water is reflected in the EPA National Water Quality Inventory submitted to Congress June 30.

The inventory, third in a series of annual reports, is the Agency's summary and analysis of the 1976 water quality reports prepared for Congress by 45 States and five U.S. jurisdictions.

Almost every report submitted to EPA at least mentions some type of toxic problem, although the need for more monitoring data to assess the problems better was also reported.

Most common among the toxic problems described was contamination due to heavy metals — arsenic, cadmium, chromium, lead, mercury, and zinc. Principally, metals contamination comes from industrial discharges, urban runoff, erosion of soils rich in minerals, and rock deposits containing metals that dissolve in water. Of these sources, industrial discharges and urban runoff cause the greatest effect on water quality in most areas except some western States where mining activities are significant.

Eighteen States, representing all regions of the country, reported at least some pesticide problems, associated mainly with nonpoint sources such as agricultural runoff in the east, and with irrigation return flow in the more arid western States.

Water pollution from toxic industrial chemicals was a complaint of 16 States, including all of the Great Lakes States. The most commonly reported chemicals were phenols, cyanide, and PCBs. However, several northeastern States and Great Lakes industrial States, notably New York and Indiana, noted improved conditions as the discharge of these chemicals was brought under control.

Copies of the Inventory are available from the EPA Water Planning Division Library, 401 M Street, SW, Washington, D.C. 20460.

Illinois lakes being sampled

Some 115 lakes throughout Illinois are being sampled in Illinois Environmental Protection Agency's clean water planning program to show where the most severe pollution problems exist.

The lakes, both state-owned and public over 100 acres, will be ranked for future restoration or protection. The information will be part of IEPA's plan to control water pollutants from agricultural lands, urban areas, construction sites and mining areas.

PBB hotline now rings

A PBB information number has been set up in Big Rapids, Michigan, by the Michigan Department of Public Health, according to the *Detroit News*. Persons wanting information on PBBs can call collect at 1-616-796-3514. A staff is reportedly prepared to answer questions and assist with problems. Last year, a health department office was set up in Big Rapids where the highest concentration of farms quarantined in Michigan's PBB episode were located.

Weatherman Briefings

EPA Region V is holding "ozone weather briefings" in nine major cities in the region this summer in an effort to orient TV weatherman on such subjects as ozone formation and meteorology, health effects, and possible solutions to ozone problems. Cities where briefings are being held are Cleveland, Toledo, Columbus, Dayton, Cincinnati, Indianapolis, Detroit, Milwaukee and the Twin Cities. The briefings are conducted by specialists from EPA and by a medical doctor provided by the local Lung Association chapter.

Hoosier electric plant okayed

EPA Region V announced June 29 that it has determined that construction of a proposed Hoosier Energy electric generating facility at Merom, Indiana will not significantly degrade air quality for particulate matter and sulfur dioxide.

The proposed Hoosier Energy Merom Generating Station will consist of two 490,000 kilowatt coal-fired steam electric generating plants scheduled to begin commercial production in 1980. The two new units will burn a total of 2.5 million tons of high sulfur coal per year. Scrubbers will be used to reduce sulfur dioxide emissions to acceptable levels.

EPA officials in Chicago say this is the sixth such facility to be given approval for construction in the Region since the regulations for prevention of significant deterioration of air quality became effective in January of 1975. The other power plants given approval by EPA include three in Wisconsin and two in Minnesota.

Nitrosamine discharge to be limited

According to the *Indianapolis Star*, Eli Lilly and Company is working hard to reduce the amount of a cancer causing chemical — nitrosamines — dumped in minute amounts into the Wabash River.

U.S. EPA has recommended limits for the maximum allowable amount of discharge of nitrosamines into the river.

Nitrosamines are a chemical which have been proven in the past to cause cancer in certain animals. The nitrosamines are a byproduct of a herbicide made at the Lafayette, Ind. Lilly plant.

Trace amounts of nitrosamines were found in the waste water discharge of the Wabash River located plant.

C. Virgil St. John, Lilly plant manager, reportedly said that Lilly is against dumping any carcinogenics into the environment if there was a realistic threat to human health.

The Indiana Stream Pollution Control Board is holding hearings to discuss proposed EPA controls on the amount of discharge which will be permitted.

Appalachian energy study coming

A three-year Technology Assessment of Energy Development in Appalachia will be made by the Battelle Memorial Institute in Columbus, Ohio under the terms of a contract recently signed with EPA's Office of Energy, Minerals, and Industry.

The assessment, a part of the Interagency Energy-Environmental Research and Development Program, will predict the social, economic, and environmental impacts that expanded use of the area's energy resources may have in the future. The study will consider impacts at all points of energy production chain, including extraction, conversion, and final distribution, and will formulate options for managing energy development which will maximize beneficial aspects while they mitigate harmful effects.

The Appalachian Regional Commission is a co-sponsor of the study, whose scope covers all or part of thirteen States. The EPA has similar projects underway in the Ohio River Basin and the western coal-producing areas.

A description of the project and additional information can be obtained from the Project Officer, Mr. Victor Jelen, at the Industrial Environmental Research Laboratory, U.S. Environmental Protection Agency, 5555 Ridge Avenue, Cincinnati, Ohio 45268. His telephone number is 513/684-4208.

Fields contaminated by airborne metals

Purdue University researchers say fields south of the Northwest Indiana industrial complex have received massive doses of airborne metal contaminants over the past 75 years, according to a *Gary Post-Tribune* report. But they stress that, to date, the level of metals detected in soil and in crops isn't high enough to present a health problem. The scientists said recent meteorologial sampling of the whole area revealed elevated levels of heavy metals in both the air and rainfall. However, they said there seems to be less metal added to the Calumet region's air now than in the past. Forestry professor G.R. Parker was quoted as saying that this indicates that pollution control equipment installed by area industry in the past few years is having an effect. The heavy metals problem is being studied in a program called RANN (Research Applied to National Needs) supported by the National Science Foundation.

Taconite tax to be challenged

Reserve Mining Co. said June 28 that it will challenge in court a new state tax of 10 cents a ton on taconite wastes it dumps into Lake Superior, according to the *Minneapolis Star*. In a prepared statement, Reserve President Merlyn Woodle said the firm is "greatly concerned" about the tax, which could amount to about $6,700 a day or about $7 million between July 1, 1977 and April 5, 1980, when the company plans to stop its discharge to Lake Superior at its Silver Bay plant. When the plant is at full production, it dumps about 67,000 tons of tailings into the Lake each day, the *Star* said.

Aurora EIS eyed

EPA Region V has announced that an Environmental Impact Statement (EIS) will be prepared on the facility plan for the Aurora (Illinois) Sanitary District and the Village of Oswego (Illinois), which addresses the abatement of pollution from wastewater in the Aurora-Oswego area.

The EIS will be prepared because EPA's review of the proposed alternatives has indicated the possibility of significant environmental impacts.

PEOPLE

Patrick E. Lynch has been named deputy director of the Illinois EPA by agency director **Leo N. Eisel.** Lynch had been manager of the IEPA Division of Air Pollution Control and was previously manager of the agency's Division of Land Pollution Control. Before joining IEPA, Lynch was with US. EPA Region V as chief of the Solid Waste Management Branch.

Robert J. Courchaine, a 21-year veteran in the fight for clean water, has been named executive secretary of the Michigan Water Resources Commission by Michigan Department of Natural Resourcs Director **Howard A. Tanner. William Bradford** has been named assistant executive secretary of the Michigan WRC.

Arthur ("Art") Corcoran, who has administered more than $1.5 billion in state and federal grant funds for Michigan wastewater treatment projects as chief of the Michigan DNR's Construction Grants Section, Water Quality Division, retired July 9. He is succeeded by **Richard T. Hinshon,** his chief assistant since 1975.

Federal Register

June 13, 1977 — Proposed Rules: Air quality implementation plans; various States, etc.: Maine, Massachusetts. **Notices:** Air pollution; ambient air monitoring reference and equivalent methods; ozone. Energy related authority; progress and impact report. **Meetings:** State-Federal FIFRA Implementation Advisory Committee. Noise abatement programs: Transportation equipment; truck, medium and heavy; test method amendment; availability. **June 14, 1977 — Rules:** Air quality implementation plans; various States, etc.: Maine. **Proposed Rules:** Air quality implementation plans; various States, etc.: California (7 documents) 30394, Pennsylvania. **Notices:** Meetings: Grant regulations and draft guidelines on public participation. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Elanco Products Co. et al; correction. Pesticides; specific exemptions and experimental use permits: Weyerhauser Co. et al. **June 16, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: Arizona. **Notices:** Meetings: FIFRA Scientific Advisory Panel; cancelled. **June 17, 1977 — Notices:** Environmental impact statements, availability, etc.: Westside Trunk District Facilities Plan for Bear Creek Valley Sanitation Authority. **June 20, 1977 — Rules:** Air pollution control, new motor vehicles and engines: Emmissions standards; selective enforcement auditing procedures; correction. **Proposed Rules:** Air quality implementation plans; various States, etc.: New Mexico. Pesticide programs: Claims determinations practice rules; test data submission in support of registration application. **Notices:** Food additive petitions: Elanco Products Co., Shell Chemical Co. Pesticide applicator certification and interim certification; State plans: Arizona. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Diamond Shamrock Chemical Co.; withdrawn. **June 21, 1977 — Notices:** Pesticides; specific exemptions and experimental use permits: Agriculture Department et al.; correction. **June 22, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: California. Noise abatement programs: Hearing protectors; labeling requirements. Product labeling standards. **Notices:** Air pollution control, new motor vehicles and engines: California; waivers (2 documents) 31637. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Abbott Laboratories, Monsanto Co., Rohm & Haas Co., Sandom Inc., U.S. Borax Corp. Pesticide registration: Applications. **June 23, 1977 — Proposed Rules:** Air pollution control, new motor vehicles and engines: Importation; inquiry. Air quality implementation plans, various States, etc.: Nevada. Pesticide programs: Pesticides and new human drugs; notification to Secretary of Agriculture; cross reference. **Notices:** Pesticide chemicals; tolerances, exemptions, etc.; petitions: Chevron Chemical Co. Pesticide programs: Pesticides and new human drugs; notification to Secretary of Agriculture. **June 24, 1977 — Rules:** Air pollution; standards of performance for new stationary sources: Petroleum refinery fluid catalytic cracking unit catalyst regenerator. **Proposed Rules:** Air pollution; standards of performance for new stationary sources: Grain elevators; suspended. **Notices:** Environmental statements; availability of agency comments. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Shell Chemical Co. Pesticide registration: Garlon 3A herbicide. Pesticides; specific exemptions and experimental use permits: Arkansas Department of Commerce, BASF Wyandotte Corp.; correction, California Department of Health, Chevron Chemical Co. et al, Louisiana, Monsanto Agricultural Products Co. et al, Texas Department of Agriculture, U.S. Borax Research Corp. Pesticide programs: Pronamide; extension of time. **June 27, 1977 — Proposed Rules:** Toxic substances: Polychlorinated biphenyls (PCBs); meetings and inquiry. **June 28, 1977 — Rules:** Air pollution control, new motor vehicles and engines: Certification; 1977, 1978, and 1979 model years. Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Thiabendazole. **Proposed Rules:** Air quality implementation plans; various States, etc.: Maryland. Toxic substances: Inventory reporting and general provisions; reproposal intent. **Notices:** Environmental statements; availability, etc: Albuquerque, N. Mex., Wasteswater Treatment Facility, St. Charles Parish, La., Shell Chemical Co., Polypropylene Plant. **June 29, 1977 — Rules:** Grants, State and local assistance: Editorial changes, etc. Grants; subagreements: Procurement under EPA grants; minimum standards; extension of time. **July 1, 1977 — Rules:** Procurement; contract forms. **Proposed Rules:** Air quality implementation plans; preparation, adoption, and submittal: Inspection/maintenance program; extension of time. **Notices:** Grants, State and local assistance: Treatment works, construction; sewage collection system projects funding. National Emissions Data System, information confidentiality; inquiry. **July 6, 1977 — Rules:** Air quality implementation plans; various States, etc.: Indiana, Texas. **Proposed Rules:** Air quality implementation plans; various States, etc.: California (2 documents). **Notices:** Environmental statements; availability, etc.: Cranston, R.I. wastewater collection and treatment facilities. Environmental statements; availability of agency comments. Meetings: Society of Plastics Industry, Inc. Pesticides; specific exemptions and experimental use permits: Agriculture Department el al, Penwalt Corp. et al. **July 7, 1977 — Notices:** Food additive petitions: Elanco Products Co.; correction. Pesticides; specific exemptions and experimental use permits: Clemson University, New Jersey Department of Environmental Protection (2 documents) 34808. Water pollution control; safe drinking water; public water systems designations: Georgia Department of Natural Resources.

Energy Report from the President

President Carter Calls for Conversion of Nation's Electric Power Plants from Oil to Coal

President Carter's Energy Plan calls for maximum conversion of this nation's electric power plants from oil to coal combustion. On July 14, EPA Deputy Administrator Barbara Blum cited a new report affirming that flue gas desulfurization systems (scrubbers) are the best means of protecting public heatlh from this monumental shift in energy priorities.

"To help control increased sulfur dioxide air pollution from this massive coal conversion, the Energy Plan recommends that all new power plants install best available pollution control technology," Blum said, "and as our report points out, the only process with high sulfur dioxide removal efficiency widely available now is scrubbers."

The report, titled "Flue Gas Desulfurization in Power Plants, Status Report" (April 1977), summarizes the worldwide progress of scrubber technology in controlling sulfur dioxide (SO2) pollution from power plants.

EPA set national health standards in 1971 for SO2, which can irritate the upper respiratory tract and damage lung tissue, as well as yellow plant leaves and eat away iron, steel, marble and other solid materials. The approximately 970 power plants that burn oil and coal to produce electricity in America are the major sources of this pollutant.

"The report states that in the last five years scrubbers have been substantially refined and improved," Blum said. "Scrubbers are now offered for sale by at least 13 reputable U.S. firms, and many variations of the basic process are being developed."

"I firmly believe that the electric power industry is coming around to a positive acceptance of scrubbers. Fifty power companies have now installed or are building or planning 119 scrubber systems. This is a 270 percent increase over the 44 systems planned, in construction or installed by 24 companies in Fall, 1973, when EPA held special hearings on actions necessary to bring power plants into compliance with SO2 air pollution standards."

Among the subjects covered in the report are: (1) historical background; (2) related studies; (3) power plant compliance with air pollution regulations; (4) names of companies using scrubbers; (5)Japanese scrubber experience; (6) technological progress of the five main scrubber systems, the Lime and Limestone, Wellman-Lord, Double Alkali, Chiyoda, and Magnesium Oxide; (7) description of systems currently in operation; and (8) scrubber costs.

Copies of the report are available from Jim Herlihy, Division of Stationary Source Enforcement (BN-341), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460, or call him at (202) 755-8137.

Coming Attractions — Calendar

August 25
Urban Stormwater Task Force
Holiday Inn, Bloomington 9 a.m.

August 31
Safe Drinking Water Hearing
Minneapolis, Minn.
Contact Joe Harrison, U.S. EPA,
Region V, 312/353-2151

Sept. 8
Technical Advisory Committee
Champaign-Urbana, 10:30 a.m.
Levis Faculty Center, U of I

Sept. 16-17
Environmental Information sharing —
Ad hoc Group
Minneapolis, Minn.
For more information contact Lou Tilly, librarian, U.S. EPA, Region V, or Lynda Norvitch at the Minnesota Pollution Control Agency, Minn.

Sept. 23
Ill. Statewide Policy Advisory Committee
Department of Transportation, Room 338
Springfield, Ill. 10 a.m.

Sept. 26, Oct. 31
Ill. Agricultural Task Force
Levis Faculty Center, U of I
Champaign, Urbana, 9 a.m.

Oct. 19-20
Forestry Seminar
Carbondale, Ill.
Contact Dr. G. M. Aubertin,
Department of Forestry
SIU, Carbondale, Ill. 62901 618 453 3341

Oct. 26-27
Non point Source Seminar
Fort Wayne, Ind.
Contact: James E. Lake, Director
Black Creek Project
2010 Inwood Drive
Fort Wayne, Ind. 46815 219 422 3373

Urban Stormwater Task Force Representatives of municipalities, sanitary districts, state agencies and regional planning commissions are examining the impact of water pollutants from urban areas and are developing solutions. Local steering committees have been formed in Rockford, Peoria, Quad Cities, Springfield, Champaign-Urbana, Bloomington-Normal, Decatur and Kankakee.

Technical Advisory Committee Scientists, planners, engineers, and other technical specialists are working to make sure that new methods for water pollution control in Illinois' state 208 plan are technically feasible.

Statewide Policy Advisory Committee Representatives of state and local government and special interest groups are helping integrate new policies or regulations into existing government programs for water resource management and economic development.

Agriculture Task Force Representatives of agricultural, environmental and special interest groups are looking at soil erosion, fertilizers, pesticides, livestock wastes and forestry and fruit production processes to find the agricultural sources of water pollution and develop solutions.

Publications you can use

EPA, Protecting Our Environment

An excellent summary of the structure and mission of the U.S. Environmental Protection Agency. Discussions center around the laws that EPA enforces in the areas of air, water, noise, pesticides, solid wastes, and radiation.

Clean Air, It's Up to You

Provides a thorough explanation of the Clean Air Act, and discusses in detail how advanced environmental groups can take part in the task of reducing air pollution.

Smog, Health, and You

An eight-page leaflet which discusses the causes of smog and outlines the harmful effects that it can have on human health. Suggestions are also made about how to reduce the amounts of hydrocarbons in the environment.

The New American Driver

This combination poster and leaflet provides helpful tips from race car driver Bobby Unser on how to identify malfunctions in your car, and on how to keep it properly tuned.

Pesticides, Read the Label First

Offers clear, concise instructions on the use, storage, and disposal of pesticides.

Noise and Recreational Vehicles

Explains the harmful effects that noise can have on human health. Topics discussed include the snowmobile, motor boat, race car, and motorcycle.

These publications are available from: EPA Region V Office of Public and Intergovernmental Affairs, 230 S. Dearborn, Chicago, Illinois 60604 (312) 353-2072.

Can We Fish Again?

This film skillfully captures emotions and facts to explain the PCB problem. Suitable for both children and adults.

Bobby Unser Car-Tune

Gives drivers tips on how to keep their cars in tune and running pollution-free.

These films are available from Film Comm, 208 S. LaSalle Street, Chicago, Illinois 60604, (312) 263-0497.

EPA
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Chicago, Illinois 60604

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Environment Midwest

Sept. '77

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ENVIRONMENTAL PROTECTION AGENCY,
LIBRARY, REGION V

Vintage Vignettes sing out for the Great Lakes

Scrubber power

By Frank Corrado

I have a habit of bringing home souvenirs whenever I visit a place. A piece of rock here, a nail there. Today, after visiting the $378 million Northern States Power Company plant in Sherburn County, Minnesota, I came home with two green marbles.

Those little green marbles are an important part of this extra-clean power plant's $55 million sulfur and dust control scrubbers.

"Sherco" as NSP calls its 2-unit plant, is the company's flagship unit, producing 1400 megawatts, roughly one fourth of the company's 5700 megawatts of capacity.

The most fascinating thing about Sherco, though, is that it has scrubbers (which in some areas are still controversial when used with even high sulfur coal) since it burns low (.8 per cent) sulfur content coal, delivered daily by 100 car freight trains from Colstrip, Montana area, half of it mined on land owned by the Crow Indians.

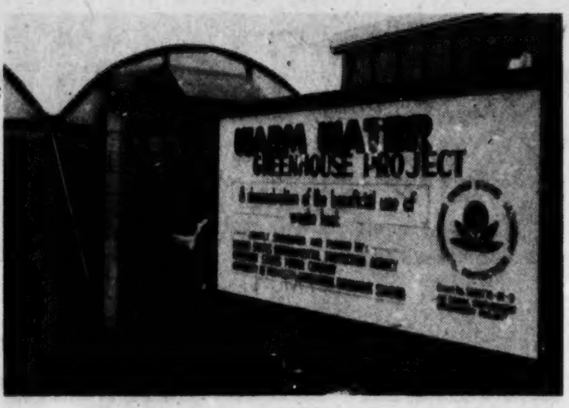
Company officials explained that the State of Minnesota ordered sulfur controls in 1970 because of concerns that prevailing winds would carry emissions on a southeast 45-mile course to the Twin Cities.

Rick Kruger, who keeps tab on the air pollution cleanup systems, speaks with confidence when asked if the plant's lime slurry scrubber system is successful. "We get about 99 per cent removal of particulates and 50 per cent removal of sulfur," he says. Kruger has been tending the 12 scrubber modules for Unit One for 18 months and for Unit 2 for six months.

There are some problems, too, he notes. "About 50 Sherco employees spend some part of their day working on the scrubbers," says Kruger. This includes a 15-man night crew which performs the equivalent task of the office cleaning lady on the lime-caked scrubbers each evening.

Theoretically, scrubbing coal is not too hard to explain. Hot gasses from the coal burning boiler are funneled through a pipe at 300 degrees and sprayed with a wet lime slurry run over Venturi rods, which remove particles. The gasses, now caught up in a slurry mist, are forced into a large pit where more lime slurry is added. The gas-slurry mixture then begins to rise and is caught on thousands of those little green marbles. The hot air that's left is then angled though metal strips which remove moisture. The final discharge is then reheated and lifted out by fans.

If this were a straight mechanical function, like producing electricity, there wouldn't be much of a problem. But this is a situation where chemistry and engineering must work together. That's what keeps the job interesting for chem engineer Kruger, especially since pH levels must be maintained at 5.



It takes two per cent of all the power generated at Sherco to run the sulfur oxide equipment and another one per cent to run the rest of the pollution control systems, including the discharge of the sulfur-laden lime slurry into specially constructed fly ash ponds. With a loading of 150 gallons per minute of slurry going into each of the 24 modules of scrubbing, it still will take seven years to fill a 60-acre pond (which is 50 feet deep and has an 18 inch clay bottom). Kruger says NSP will cover over ponds as they fill and reclaim the land.

Northern States also is hoping to double the capacity of the Sherco site and has asked the State of Minnesota for permits to add a third and fourth unit. U.S. EPA has already determined that the new units will not significantly impact air quality. Kruger says that the next batch of scrubbers will cost more since stainless steel scrubber modules will be ordered, to cut down on maintenance. The new scrubbers will also be able to burn coal up to 2.3 per cent sulfur, in case supplies vary, will remove 80 per cent of the sulfur dioxide, and won't need green marbles.

Tony Benkusky, the General Manager of Environmental and Governmental Affairs for NSP, is very anxious to show off the Sherco facility. He is proud of the bioassay lab on the plant's property, where river water and treated scrubber effluent are mixed and pumped through minnow tanks to keep a biological eye on any potential problem. University of Minnesota graduate students work in the facility.

But most publicity, though, has gone to the EPA-funded greenhouses on the Sherco property where fat red tomatoes, tall pungent rose bushes, and an assortment of other flora grow lushly, kept warm by heat tapped off the water pipes leading to the bank of cooling towers. A private greenhouse company is building new greenhouses on the property, says horticulturist-in-residence Ted Tonkinson, who runs the agricultural experiment station for the EPA grantee, the University of Minnesota.

Power Engineering magazine's 1977 Generation Planbook calls Sherco one of the nation's "Pacemaker Plants."

EPA Region V officials who recently visited the plant said they were most surprised by the "it-can-be-done" attitude of NSP officials and employees, a striking contrast to scrubber nay-sayers.

Life on the Great Lakes

By Frank Corrado

"Oh Mother, Dear Mother
Your Dreams Are not true
I will return shortly
And Prove it to You.
For the Lord will protect Me
Wherever I go
And I cross o'er Lake Michigan
Where the stormy winds blow."

The four young Wisconsin entertainers sang even more enthusiastically this cool summer evening. It might have been because the blue waters of Lake Superior were their backdrop.

And since their whole show was about life on the Great Lakes, the backdrop couldn't have been better. They call themselves the Vintage Vignettes and for the last two summers they've traveled throughout the Great Lakes states singing and acting out a romantic saga filled with French explorers, canal builders, jacktar sailors and the women they've left behind.

About 80 persons turned out at Barker's Island in Superior, Wisconsin, to see them perform this evening. Titled "Winds, Waves & Widows," the show is the work of Laurine Gajewski of Pulaski, Wisconsin. Ms. Gajewski took a leave of absence from her job as public events chief at Lawrence University in Appleton, Wisconsin, this summer to act as combination manager-singer-actor with the group.

"I've been at a loss for what to call what we do," she says. "I guess you could call it a 'folk theatrical.' "

Other members of the group include Green Bay native Christopher Dillon, who attends Luther College in Iowa; Suzanne Lammers, from Shiocton, Wisconsin, a music education major at Alverno College in Milwaukee; and Jonathan Sonenfield, of Green Bay, principal guitarist.

Gajewski is a local history buff who researches both history and music and then writes, choreographs and directs the production. The group is also doing another folk theatrical called "Ho, for the Gold Field," tales of the crossing of the Plains.

"Winds, Waves & Widows" included fast-moving vignettes of the voyageurs and fur-traders, the Lake wars, the wrecks of the Lakes, the tales of Lake superstitions and songs and yarns of the sailors themselves.

From the period of the voyageur came a ballad of a French Canadian fur-trapper and his adventures on a skunk-hunting expedition, then a song about the tide of western migration through the building of the Erie Canal in 1825 through to the growth of the timber and ore industries of the Midwest. *Red Iron Ore*, an authentic Great Lakes ballad, recounts the tale of the huge ore ships loading from Duluth and Escanaba; and the *Bigler*, a timber schooner, slower than slow, but nevertheless involved in a race for Detroit.

Many of those who have attended "Winds, Waves, & Widows" are tourists, but scattered local natives who turn out are some of the same lake people whose families are tied to the inland seas. "One of the most touching things that has happened," say Gajewski, "was after one show when an older woman came up to me and said how the show had brought back so many memories to her about the times when her husband, a sailor, was alive. Her eyes just flooded.

"I didn't know whether I should feel bad or be happy that she had remembered."

The long and popular success of Vintage Vignettes is but one of a number of growing indications of the booming popularity of the Great Lakes.

Rick Lydecker, a member of the board of directors of the Head of the Lakes Maritime Society, which sponsored Village Vignette's Superior performance says that environmental concerns for the Great Lakes in the last few years have sparked new interest in the lakes, that it can especially be seen in the number of young people studying them in school now.

Just across from where "Winds, Waves & Widows" was playing, the *S.S. Meteor*, the last remaining "whaleback" design ore boat, has come to final anchor. The whalebacks, built around the turn of the century, were cigar-shaped ore boats designed to ride low in the water and take a heavy sea pounding.

The "Head of the Lakes" group was instrumental in bringing the craft to Superior, where the whalebacks were first built, in the late 1800s.

Lydecker's latest project is to raise money for a new project, the "Seamen's Memorial," a 10-foot statue to be dedicated to Great Lakes seamen. "It was inspired by the sinking of the *Edmund Fitzgerald* in 1975," says Lydecker. That statue, similar in concept to the "Man at the Wheel" in Gloucester, Massachusetts, is currently being cast in bronze at the University of Wisconsin at Superior. Lydecker is helping finance the statue with the sale of green buttons that sell for a dollar each. "The sailors are buying them from the bumboats (service vessels) like crazy" says Lydecker.

The "Winds, Waves, & Widows" production, appropriately enough was staged on the site set aside for "Seaman's Memorial."

Conneaut, Oh.

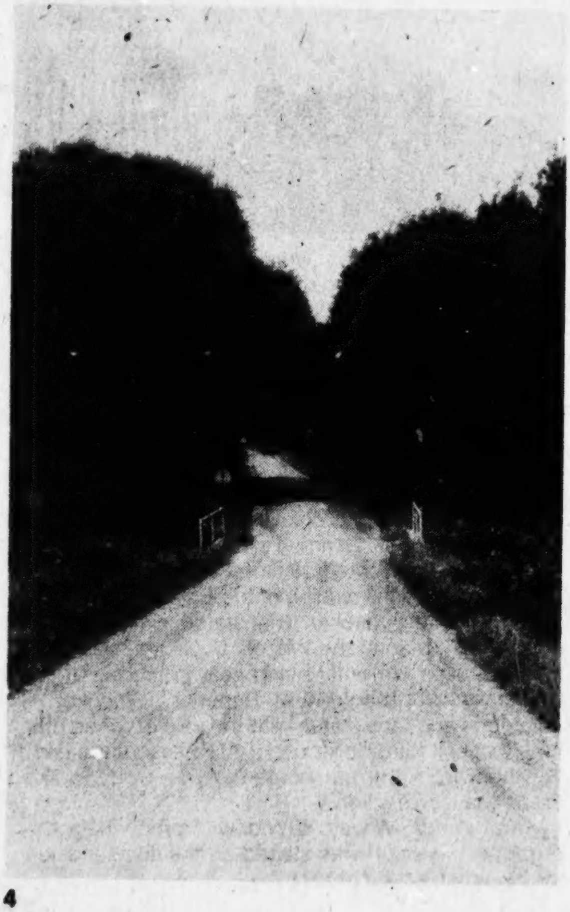
By Phyllis Kierig

Approximately 300 residents of the Conneaut, Ohio area had a chance last month to ask top EPA policy makers and technical experts about the potential environmental impacts they could expect if U.S. Steel locates its proposed new mill on Conneaut's beachfront.

EPA called the meeting to explain to local residents the responsibilities of EPA Regions III and V, the Corps of Engineers and the Ohio and Pennsylvania environmental agencies.

U.S. EPA is currently involved in making an environmental assessment of the proposed steel facility. For the first time U.S. Steel asked federal agencies to give it a preliminary assessment of environmental problems their facility could produce before construction.

The facility would be located immediately east of Conneaut on the shores of Lake Erie and would straddle the Ohio and Pennsylvania state lines. Parts of the proposed plant would be in both locales.



Trees and wild flowers and untouched prairie cradle the shoreline of Lake Erie marked for the proposed mill. Conneaut area residents wonder what will happen down this road.

If U.S. Steel receives preliminary environmental okays it would be building a mill equal to 68 per cent of the company's total worth.

According to steel executives, the mill would employ the world's most advanced steel making processes. Steel executives have asked the federal government to make its preliminary assessment of the proposed facility by January 1, 1978.

The Corps of Engineers is the lead federal agency in preparing the environment impact statement, because the company must secure Corps permits to dredge and enlarge the existing Conneaut harbor.

EPA will write the environmental assessment of water, air and secondary impacts for the Corps. The Corps will incorporate EPA's assessment in its final report.

The Corps has sponsored three public meetings on the proposed mill.

EPA held its forum because the agency felt there was a need to have an early meeting to answer questions dealing directly with air and water pollution.

Speakers at the meeting were George Alexander, Jr., EPA Region V Administrator, Chicago; Dr. Al Morris, EPA Acting Administrator for Region III, Philadelphia; Donald Wallgren, Deputy Director of the Surveillance and Analysis Division, Region V; Nickolas DeBenedicitis, Project Coordinator for Region III EPA; and Wesley E. Gilbertson, Special Assistant for Planning for the Pennsylvania EPA.

During the meeting, Alexander assured the public that the most rigid standards of environmental clean air and water would be enforced for the proposed facility.

"The technology required is the most advanced thing we'll see in a long time. If they (U.S. Steel) don't comply, they will never start up operations. It is distinctly to their economic advantage to comply," Alexander stressed.

Throughout the hot, muggy night, the public pressed Alexander for more technical details on air and water monitoring and what the data meant.

Alexander explained that detailed air and water models would not be available until sometime in September. The Region V Administrator said he would also provide assistance to local residents in interpreting the model information.

"I do not have any legal requirements to meet with you again," said Alexander, "but I do have a moral obligation to help you understand the techni-

— a small town waiting . . .

cal information. We will staff workshops to work with all of you (local residents)."

Several of the local residents had stood up at the meeting to ask for assistance in examining the draft environmental assessment to be prepared by the Corps and containing EPA's preliminary information. The residents indicated they wanted assistance because analyzing and commenting on the proposed statement in the 45-day time limit would be difficult for non-technical people.

Several citizens pressed Alexander of EPA's position on the proposed facility.

Alexander told the audience it was important to realize that no decision had been made on whether the proposed facility should locate on Conneaut's shores.

"You people are assuming that the steel mill has already been approved," said Alexander. "We have made no decision one way or another . . . "

Area residents are divided over the proposed mill. In previous Corps meetings, the steel workers, local businessmen and city officals had spoken out in favor of the facility.

The official endorsement of the facility by local officials ocncerned several anti-mill citizens at the meeting.

"We don't think anyone is listening to our needs," said one woman. "The city councils have already endorsed the mill and won't even hear us when we express concern . . . "

Opposing the proposed mill are members of the Sierra Club, Erie sportsmen's clubs and a group named Concerned Citizens. Representatives of all three groups spoke out against the mill at the meeting.

In addition, private citizens asked EPA if it would not be cheaper and better for U.S. Steel to clean up existing facilities than build a new facility.

"Wouldn't it be cheaper to just clean-up their act at all the other plants and stay the hell out of here . . . " said one elderly resident.

Another citizen wanted to know what safeguards EPA insisted on against malfunctions in the mill?

"What happens if we have a malfunction in the plant with a leak in the holding ponds? Will the holding ponds flood all the local drinking water supplies? What is going to happen if the white heat the mill produces heats up the earth's atmosphere?" asked one citizen.

A spokesman from the Erie County Council of Sportsmen's Clubs said residents should not kid themselves about the mill.

"U.S. Steel has one of the worst records with water and air pollution clean up in the nation at their major plants. We sportsmen have fought hard to keep the lake clean . . . What will happen when U.S. Steel pours tons of toxic materials into the lake . . ."

The Sportsmen's Clubs representative quoted an article in *New Times* magazine of May 13, 1977, that contained information on the effect of toxic chemicals on coarse fish. The club spokesman said he had learned that toxic chemicals had produced tumors in gonads of the fish, thus rendering them sterile.

"Is this what will eventually happen to us. The genetic code can be altered by toxic chemicals . . . " pleaded the Sportsmen's Clubs representative.

Citizens at the meeting seemed evenly divided in concern over both air and water pollution.

Representatives from the local grape growing regions and plant nurseries wanted more information on the effects of air pollution on plants. Citizens who used the lake for recreation or drinking water supply wanted more water pollution data.

P & J
VARIETY STORE

Conneaut is a small town in northeastern Ohio waiting for big decisions.

One resident said he had calculated that the mill would be using enough water every day to equal a wedge three feet deep, two feet wide, and 11 miles long.

"Erie is a shallow lake. What will happen to its natural balance if this much water is withdrawn from it every day?" asked the citizen who had calculated the size of 815,000 gallons of water.

Citizens who attended the meeting were put on EPA's mailing list to receive any future fact sheets on the progress of the proposed mill.

Other persons who desire information of the facility can be put on EPA's mailing list by writing: Mill Information, U.S. EPA, Region V Public Affairs Office, 230 S. Dearborn, Chicago, Illinois 60604.

Letters

Dear Sir:

I was very interested in your story (Catalytic converter bypassers foiled) in the July issue of Environment Midwest. This story prompted me to seek the following information from you.

Toward the end of your story you referred to the situation where people changed the gas tank opening so they can put leaded fuels into cars requiring unleaded fuel. I have been asked several times where the responsibility and liability is in the following situations:

1. An automobile drives into a full-service station for refueling. The owner of the automobile has altered the fill opening so that leaded fuel can be put into the tank. The driver asks the attendant to fill the tank with leaded fuel, the attendant does as instructed and fills the tank.
2. An automobile drives into a self-service gas station. The owner of the automobile has altered the fill opening so that leaded fuel can be introduced into the tank. The driver pulls up to the leaded pump and fills his own car with leaded fuel. The only attendant or company employee on duty is the cashier who is not physically present at the pump island.

I would appreciate it very much if you would respond to these two situations and let me know in your estimation who is responsible for this violation and who the fine would be levied against.

Yours truly,

Gene Haflich
Associate Director
Indiana Petroleum Council

Dear Mr. Haflich:

Under the Clean Air Act, Federal regulations have been established which prohibit a gasoline retailer (anyone who owns, leases, operates or controls a retail outlet) from either introducing or **allowing** the introduction of leaded gasoline into automobiles designed for unleaded fuel. See Title 40 of the Code of Federal Regulations, Section 80.22(a). This prohibition likewise extends to the retailer's employees and agents.

Consequently, in both of the situations which you described — where the attendant himself wrongly fills the tank and where the cashier knowingly allows a customer to do so — the Federal regulations have been violated. Section 211(d) of the Clean Air Act authorizes a civil penalty of up to $10,000 for each day in which these violations continue. Only the retailer, not his employee or agent, is to be deemed in violation and will be assessed the appropriate penalty.

Because of the potential for catalytic converter damage which these introduction violations pose and the apparent increase of this practice, our Agency has become increasingly concerned. Should you know of stations where this practice is occurring, or have any further questions on this matter, please call me at (312) 353-2082.

Very truly yours,

Louise C. Gross, Attorney
Case Development Section

Region V EPA deputy Val Adamkus (r.) discussed Union Carbide's new oxygen plant facility operation with Carbide senior vice president Alex Flamm at the plant's dedication in August. The facility produces 4,000 tons of oxygen per day and is the biggest facility of its kind in the world. The oxygen is piped to existing and new basic oxygen steel furnaces in Northwest Indiana. Flamm, in his dedication remarks, talked of new solid waste and sewage treatment technologies that are using pure oxygen.

SBA loans for clean-up okayed

Small businesses in at least one Region V State — Illinois — may soon be able to get long term (20-25 years) low interest rate financing for their pollution control needs under a new Small Business Administration program.

Sheldon Sacks, EPA Financial Assistance Coordinator for the program in Washington, D.C., said that in California, the first ever tax-exempt Industrial Pollution Control Revenue Bond backed by the SBA has just been issued by the State's Pollution Control Financing Authority for just over $5 million at a net interest cost to participating firms of 6 percent.

Sacks said Illinois, New York, Pennsylvania, Arkansas, Ohio and Missouri have expressed an interest in participating in the program which is a new type of assistance by the SBA in cooperation with commercial banks and state agencies.

The SBA estimates that roughly 750 small businesses accounting for nearly $300 million will be taking advantage of the program, he pointed out.

Legislation passed in June of 1976 (P.L. 94-305) authorized the SBA to issue an unqualified guarantee of 100 percent of the payments of rentals and other amounts due under qualified contracts with respect to the planning, design, financing or installation of pollution control facilities.

"The pilot program begun in California took various industry segments having extensive pollution control problems," he said. "The initial Pollution Control Revenue Bond included an apple grower's cooperative association, a leather tanning company, a manufacturer and distributor of cheese and milk products, a timber business, a non-profit agricultural cooperative association, a metal plating work and a smelter and refiner of copper and bronze scrap."

Sacks said EPA is pleased to see SBA developing this new program for small business. "EPA feels the impact of the program will be significant since many of the over 41,000 National Pollutant Discharge Elimination System Permit holders who discharge wastes into the water and the over 100,000 businesses affected by new pretreatment regulations could be eligible for this program," he added.

To get the SBA guarantee, he said, a bank or other financial organization must serve as a qualified sponsor. It must certify the companies credit worthiness, and show that other long-term financing either isn't available or that it would impose a severe hardship.

"Unlike the normal procedures involved in obtaining a loan," Sacks noted, "tax-exempt bond financing, by nature, necessitates substantial additional costs such as bond counsel fees, SBA's guarantee fee, attorney's fees, trustee and paying agent's fee, required escrow deposit fee, and application fees for both SBA and the State issuing authority."

He said these costs are estimated to add between one-half percent to one percent to the small business financing cost. Most financing experts agree that the most favorable interest rate for bond financing is generlly available on larger issues. Because of this, Sacks added, financing for amounts below $150,000 can be uneconomical for a small business.

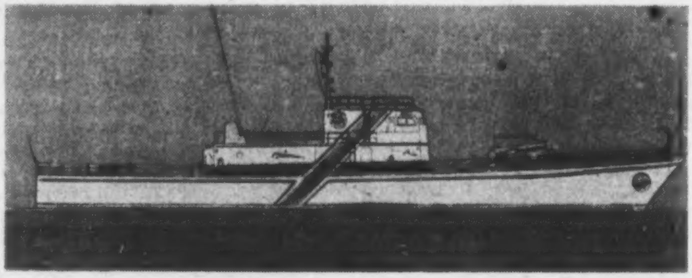
"For smaller sums," he continued, "the small business should consider the SBA/EPA water and/or air pollution control loan program. This loan program offers eligible small businesses loans at 6 5/8 percent interest with up to 30 years to repay the loan."

The loan program was initiated to provide loan assistance to those small businesses that would suffer a substantial economic hardship in order to meet the requirements established under the Federal Water Pollution Control Act, according to Sacks. He said the loans are provided when commercial loan sources are unavailable or can only provide part of the required loan.

"An EPA certification which states that the equipment or process for which funds are being made available is necessary and adequate to meet the pollution control requirements placed upon the application is required," Sacks added.

For more information on the Pollution Control Revenue Bond program the reader should write to SBA, Office of Community Development, 1441 L Street, N.W., Washington, D.C. 20416.

For more information on the Water Pollution Control Loan program and a free brochure entitled Financial Assistance Programs for Pollution Prevention and Control Available through the Federal Government write to Sheldon Sacks, EPA, Financial Assistance Section, WH-586, 401 M Street, S.W., Washington, D.C. 20460.



U.S. EPA will launch a new Great Lakes limnological vessel named the Crockett next spring. The ship was obtained from the Navy and will replace the Roger R. Simons. The new vessel will start its first water testing work on Lake Erie. The ship will accommodate up to 15 scientists and technicians and up to 10 tons of laboratory, sampling and survey equipment. The top speed is 15 knots for the 165 feet long vessel.

Fuel desulfurization write-offs approved

EPA Administrator Douglas M. Costle has proposed regulations which provide significant tax relief to firms which install new air or water pollution control facilities.

The proposed regulations implement Section 2112 of the Tax Reform Act of 1976 which authorizes industry to "write-off" the cost of most pollution control equipment over a period of five years instead of the usual ten.

"An earlier provision for rapid amortization, which expired at the end of 1975, was little used because it required industry to choose between fast write-off and the normal tax credit available for all capital outlays," Costle said. "Since the new rules allow half the regular tax credit in addition to five year amortization, we project that the new provisions will be attractive to firms which install pollution control equipment having a useful life greater than 11 or 12 years."

The new rules also provide for fast write-off of fuel desulfurization equipment, which was formerly ineligible.

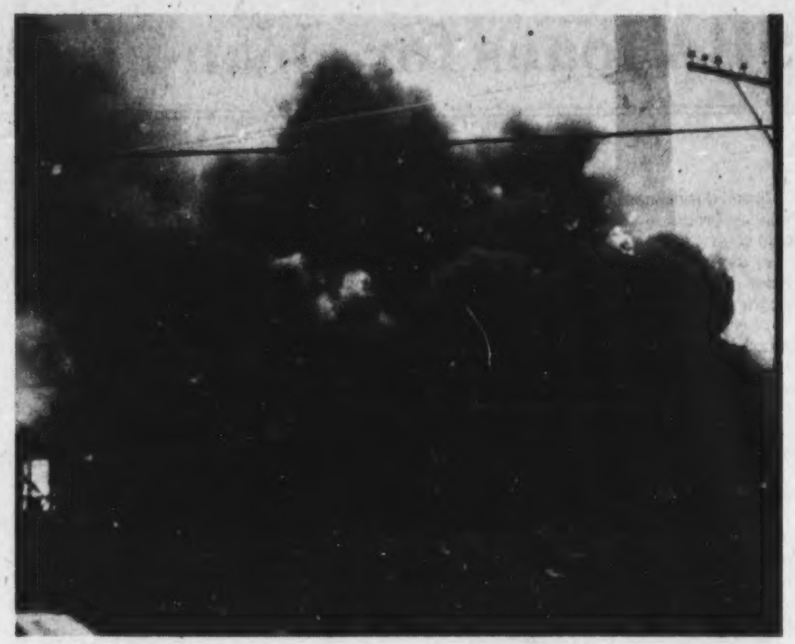
"These new provisions are designed to stimulate spending for pollution control equipment and encourage voluntary compliance with environmental standards," Costle said. The proposed regulations appeared in the August 4, 1977 Federal Register.

Interlake settlement

EPA Region V Administrator George R. Alexander, Jr., and Acting U.S. Attorney for the Northern District of Illinois Charles P. Kocoras announced July 15 the settlement of a case pending against Interlake, Inc., for air pollution at its Chicago plant.

The suit, filed September 28, 1976, charge Interlake with violation of the Clean Air Act for failure to install controls at its coke batteries. This settlement was lodged with the Court and put on public notice for a 30-day period for citizen comment. A final settlement will be entered only after full consideration of any comments received.

Under the agreement, Interlake will complete a program in 30 months that will result in approximately a 90 per cent reduction in the emissions of particulates during pushing operations. If Interlake fails to meet the schedule for compliance, they will be subject to penalities of $1,000 a day.



Coke pushing pollution

EPA eyes nitrosamines risks/benefits

EPA said August 3 that by October 1 it will begin reviewing the risks and benefits of pesticides that contain certain "nitrosamine" impurities that are considered possible cancer agents.

Several hundred insecticides, herbicides and other pest control products may be involved in the review including three weed killers whose banning has been sought by Congressmen Andrew Maguire (D., N.J.) and Henry Waxman (D., Cal.), several farmworkers and the Migrant Legal Action Program, Inc. and the Maricopa County (Arizona) Legal Aid Society.

These three products are "Treflan," a widely used agricultural herbicide made by the Elanco Division of the Eli Lilly Co., and "Trysben 200" and "Benzac 1281," industrial weed killers made by DuPont and Amchem Products, Inc. respectively.

Treflan contains a type of nitrosamine called "dipropyl," and Trysben and Benzac contain nitrosamines called "dimethyl." Both of these are considered possible cancer threats to people based upon tests with laboratory animals.

The EPA review, technically called a "rebuttable presumption against registration," may or may not lead to restrictions on the pesticides or their removal from the market. This will depend upon whether EPA decides the cancer risk or other hazards from the products outweight their economic, agricultural or social benefits.

In the meantime, all of the pesticides may continue to be sold and applied.

Nitrosamines occur in pesticides as a result of manufacturing processes or from chemical reactions in packaged pesticides.

Certain nitrosamines occur naturally in air, soil and water. But the most important sources of human exposure include eating cured meats such as bacon and smoking cigarettes.

The Agency has been wrestling with the problem of nitrosamines in pesticides for about a year. Last October it asked pesticide makers to submit product samples for nitrosamine analysis. Another 100 samples are now being examined by a contractor.

In addition, the Agency is developing a "policy statement" on nitrosamines that will require additional safety tests on pesticides containing them. Those nitrosamines found hazardous will have to be reduced in finished pesticide products that have them.

Resource recovery, waste reduction report ready

EPA Administrator Douglas M. Costle has sent the Agency's latest review of the current status of waste reduction and resource recovery in the United States to the President and the Congress.

The *Fourth Report to Congress on Resource Recovery and Waste Reduction* describes the principal developments and findings in the areas of resource recovery (the productive use of waste material) and waste reduction (the prevention of waste generation) as they apply to post-consumor municipal solid wastes. This is the last report in a series required by provisions of the Solid Waste Disposal Act as amended in 1970.

The report updates EPA's nationwide estimates of the quantity and composition of municipal solid waste generation through 1975. The status of energy and material recovery from municipal solid waste is surveyed, including developments in EPA-supported technology demonstration projects and "source separation" programs. The report also highlights current practices to reduce the generation as waste such as deposit activities (Federal guidelines, State legislation, and local government initiatives). Preliminary findings on the concept of a "solid waste produce charge" (a tax on packaging and products that reflects waste collection and disposal costs) is also included, as well as data from recent EPA studies estimating the economic and environmental impacts of a nationwide beverage container deposit law. Appended to the report are 1) a comprehensive bibliography of EPA publications on resource recovery, waste reduction, and related fields; 2) a listing of on-going research and study projects covering several Federal agencies; and 3) a special bibliography on environmental and natural resource impacts of products and materials.

Copies of the report are available from the EPA Press Office, Room 329, 401 M Street, S.W., Washington, D.C., or by calling (202) 755-0344.

EPA probes radiation costs/benefits

EPA has released a new report conducted by the National Research Council of the National Academy of Sciences concerning the problem of evaluation of the total benefits derived from exposure to ionizing radiation for comparison with the total risks (costs).

The report deals with health benefit-cost analysis and attempts to frame the problems, communicate the elements of the complex technical processes and methods of analysis, and provide a basis for more informed governmental decision-making and public participation in the issues.

Although the main thrust of the report involves development of methodology for analyzing health benefit versus cost of an activity which results in radiation exposure to people, application of the methodology is demonstrated for nuclear power production and medical uses of radiation.

In the case of nuclear power, the report concludes that such an analysis "can be applied effectively to nuclear power production at the level of technical decisions. However, where national policy is involved, decisions must inevitably be made on the basis of value judgments, to which economic, including benefit-cost analysis, can make only a limited contribution."

Application of the analysis to the medical uses of radiation led the study group to urge that "there should be a concerted effort to improve the benefit-cost ratio in medical applications of radiation, without limiting the benefits derived from modern radiological services."

Pointing out that the largest current source of controllable man-made exposure, by a factor greater than 10, is medical x-rays, and some exposures are of doubtful or no value to the individuals exposed, the report states "it would appear that the most significant and cost-effective reduction in the radiation exposure of the population as a whole is likely to be achieved by the development of methods of eliminating medically unproductive x-ray exposure."

The report, entitled "Considerations of Health Benefit-Cost Analysis for Activities Involving Ionizing Radiation Exposure and Alternatives," was prepared under contract to EPA by the National Research Council's Advisory Committee on the Biological Effects of Ionizing Radiation, chaired by George W. Casarett of the University of Rochester Medical Center. The National Research Council is the operating arm of the National Academy of Sciences.

Single copies of the report may be obtained from the Criteria and Standards Division, Office of Radiation Programs (AW-460), EPA, 401 M. Street, S.W., Washington, D.C. 20460.

Toxic substances control act requirements revised

EPA Administrator Douglas M. Costle proposed August 1 to require most chemical manufacturers to report to EPA the names, production volumes and manufacturing sites of the chemicals they make.

This information will be used to develop an inventory of all chemicals in commerce as required by the Toxic Substances Control act. Thirty days after the inventory is published, anyone wishing to manufacture a chemical that is not on the inventory will have to notify EPA 90 days before beginning commercial production. This will permit the Agency to evaluate new chemicals coming on the market that might be a risk to human health or the environment.

Additional reporting will be required in phases over the next two years. This will enable EPA to develop a systematically comprehensive base of information on all chemicals, particularly those suspected of being hazardous to health or the environment.

The proposed regulations revise a March 9, 1977 proposal that required manufacturers to report only the names of the chemicals they made.

The main purpose in revising the initial requirements is not only to compile the inventory but also to develop an adequate information bank for implementing all the laws dealing with chemical risks. Information on where chemicals are produced will be useful in identifying possible sources of hazardous chemicals, especilly in an emergency. Information on the amounts produced will allow EPA and other agencies to better select those chemicals requiring priority attention.

Costle said, "This expanded approach to the initial reporting requirements is essential to develop an adequate data base for effective implementation of the law. In addition, after these initial reporting requirements become final, we intend to require further reporting on the uses and potential exposure of selected chemicals."

The initial reporting requirements will be limited to the chemical and allied products and petroleum refining sectors of the industry. Manufacturers in these sectors account for about 95 percent of the chemical production in the U.S.

The proposed regulations appeared in the August 2 Federal Register. Final regulations are expected to be issued about October 1, 1977. Manufacturers that are subject to the regulations will then have to begin reporting.

A public meeting on the proposed rules was held August 24, 1977 at the Department of Agriculture's Thomas Jefferson Auditorium in Washington.

Additional information on the proposed regulations may be obtained from Mr. John Ritch in the Toxic Substances' Office of Industry Assistance (TS-788) at the above address. Mr. Ritch's telephone number is: (202) 755-0535.

EPA fines Findlay, Oh. $1,440 for illegal leaded gas fill-ups

Region V enforcement officials say the City of Findlay, Ohio, reports it has taken steps to correct violations of Federal unleaded gasoline regulations for which an EPA Complaint and Notice of Opportunity for Hearing was issued in mid-July and a $2,400 civil penalty assessed.

As a result of Findlay's actions, EPA has offered to reduce the civil penalty by 40 per cent, the maximum reduction allowed by law, which means that the City will be assessed $1,440.

The EPA Complaint cited Findlay for three separate violations of Federal law. First, the pumps at the city's fueling station had nozzles smaller than the size required by law for dispensing leaded fuel.

Second, the city failed to "prominently and conspicuously display" in the immediate area of each pump stand a sign which reads: "Federal law prohibits the introduction of any gasoline containing lead or phosphorous into any motor vehicle labelled 'UNLEADED GASOLINE ONLY'." Introduction of leaded gasoline into a vehicle which requires unleaded fuel has the effect of destroying the catalytic converter, which converts hydrocarbons coming from the engine into harmless carbon dioxide and water.

The vehicles in question were police cars and other city vehicles, from which emissions controls had been removed within the past year. Although this is not a violation of Federal law, the U.S. EPA strongly discourages such tampering actions.

At a glance — Clean Air Act Amendments

Delayed compliance orders

The bill adds a new S113 (d) which governs the issuance of orders delaying compliance dates for stationary sources. (In the future, orders under S113 (a) must be limited to those requiring essentially immediate compliance.) Special provision is made for coal conversions and nonferrous smelters, and these requirements are summarized below. The new requirements govern orders issued by either State or Federal authority. Final compliance dates required by these orders must be as expeditiously as practicable, but in no event past July 1, 1979, or three years after the date for final compliance specified in the applicable State implementation plan, whichever is later. The only exception to these dates, other than those discussed below, is where a source complies by the use of innovative technology in which case it may be granted up to five years to comply.

Delayed compliance orders may be issued by a State or the Administrator (after 30 days notice to the appropriate State), and must be preceded by notice and the opportunity for a hearing. Where the State issues the order, the Administrator may object if the order is inconsistent with this provision, and must immediately issue a substitute order to that source. In the case of a State order issued to a major source, the order will not become effective until the Administrator approves it.

All such orders must contain interim requirements deemed reasonable and practicable by the Administrator unless the source is to comply by replacing the facility, terminating operations or completely changing the production process. In these situations the source involved may receive an extension requiring no interim steps before final compliance if it posts a bond or other surety equal to the cost of compliance and any economic value which may accrue from its continued noncompliance. Where a major source is involved, the order must notify the source that it will be required to pay a noncompliance penalty if it fails to achieve final compliance by the date required in the order.

Administrative orders issued prior to enactment of these provisions must be modified to require final compliance by July 1, 1979, within one year of enactment in order to remain valid. Where a noncomplying source is covered by a substantive SIP revision that results in emission limitations more stringent or imposing new requirements then that source would be eligible for a delayed compliance order with a final compliance date three years from the date the source must comply with the new requirements.

Coal conversions

Compliance date extensions for these sources may be issued in the same manner as other delayed compliance orders with the following differences. The "primary standard condition" assures that such a source will not convert until it meets the conditions necessary to assure that the national primary ambient air quality standards will be met at all times. Second, the Administrator is to presume the applicability of the "regional limitation" if the primary standards are being exceeded anywhere in that AQCR, unless it is shown that the source's emissions will have an infrequent, insignificant effect on concentration of the pollutant, and will not cause or contribute to excursions above the national standards. Finally, compliance must be required by December 31, 1980, although an additional delay of up to five years may be granted where a source cannot, by acting expeditiously and in good faith, comply by 1980.

Smelters

Primary nonferrous smelters may obtain up to two five-year delayed compliance orders for SO^2 emissions under new S119 of the Act. Delayed compliance orders covering other pollutants must be issued in accordance with S113 (d). These orders may be issued by the Administrator, after 30 days notice to the State, or by the State, with a determination within 90 days by the Administrator that the order was issued in accordance with these requirements. Orders may be issued for the initial five-year period without public hearings except where the source wishes to avoid imposition of continuous control requirements (see below) or where the Administrator disapproves a State order. Prior to granting the second order there must be notice and a public hearing.

Smelters without continuous controls may be allowed to continue to operate without installing such controls, after notice and a hearing on the record, if it can be shown that the requirement would necessitate shutdown for at least one year. Otherwise, constant controls will be required whenever it can be shown in a public hearing that additional controls are adequately demonstrated and economically feasible.

The major effort remaining to the Agency is to establish regulations covering the operation of all nonferrous smelters. While the new bill does allow a means for special relief to this industry, the Congress makes it clear that the Agency should proceed with a vigorous enforcement program against smelters.

Civil penalties

Section 113 (b) of the Act is amended to require, in the case of a major stationary source, and allow, in any other case, the Administrator to bring an action to obtain injunctive relief or for civil penalties of up to $25,000 per day for the violations specified in that section.

Noncompliance penalties

Regulations must be promulgated by the Agency for the assessment and collection of noncompliance penalties, and until these are developed, the details of how this program will operate are necessarily sketchy. For purpose of present action, it should be noted that any delayed compliance order issued to a major stationary source should state that the source will be subject to penalties if it is not in compliance by the date specified in the order. The earliest that noncompliance penalties will become due is July 1, 1979, with first payment due in that situation on January 1, 1980.

Clean Air Act Amendments

Nonattainment

New S129 of the Act sanctions the Agency's continued application of its interpretative ruling published in 41 *Federal Register* 55524-30, December 21, 1976, until July 1, 1979. The only change to existing policy is that the baseline to be used for determination of appropriate emission offsets is to be the applicable implementation plan in effect at the time of application for the permit. In addition, the requirements of the regulation can be waived by the Administrator if he determines that the State has an adequate inventory of emissions for that pollutant and an enforceable permit program meeting the requirements specified in the section.

Notice to states

Section 114 of the Act is amended to require the Agency to give reasonable prior notice to a State agency before conducting an entry, inspection or monitoring of a source within that State, unless there is reason to believe that the State is informing sources, and except in the case of a Federally-promulgated plan. Failure to notify the State is no defense in any enforcement action nor does it render any evidence inadmissible.

Federal facilities

Section 118 is amended to make clear that Federal facilities must comply with all procedural and substantive Federal, State, interstate and local requirements in the same manner as any nongovernmental entity. Further, the term "person" in the Act is redefined to include any agency, department or instrumentality of the United States.

Prevention of significant deterioration

The existing regulations will remain in effect until the required The existing regulations will remain in effect until the required SIP revisions are made to implement the requirements of these sections of the bill. Any regulations in effect which would be inconsistent with provisions concerning mandatory Class I areas, Class I increments and redesignations is deemed amended to conform with those provisions. Thus, before any PSD permits are issued, care should be taken to ensure there is no conflict with these requirements.

Mobile source provision highlights

- Extend the 1977 HC standard of 1.5 gpm through 1979, ime
- Extend the 1977 CO standard of 15 gpm through 1979, requiring 7 gpm in 1980 and 3.4 gpm in 1981, with waivers possible for two years;
- Extend the 1977 NOx standard of 2 gpm through 1980, setting a final standard of 1 gpm in 1981, with waivers possible for innovative technology and diesels;
- Establish the statutory 0.4 gpm NOx standard as a research objective;
- Set the performance warranty for automobile emission control-related parts at 24-months or 24,000 miles, the warranty for emission control systems exclusively at five years or 50,000 miles;
- Require mandatory inspection and maintenance programs in cities with automobile-related nonattainment problems;
- Require dealers to certify that new cars meet the standards at the time of sale;
- Suspend high altitude emission regulations for new cars produced before model year 1984, requiring all cars to meet statutory emission stardards at all altitudes for model year 1984 and beyond;
- Require EPA to set standards for heavy duty vehicles as provided in the conference agreement;
- Require manufacturers of new motor vehicles or engines to demonstrate as a condition for certification that the emission control system wil not cause or contribute to an unreasonable risk to public health, welfare, or safety;
- Direct EPA to revise the existing evaporative emissions test procedure to measure HC emissions from the vehicle as a whole;
- Require EPA to regulate fuels and fuel additives, including the manganese octane booster, MMT.

Federal bureaucrats, like us, affect the way you live. Here is our plan to give you a greater say on clean air, water, noise, pesticides, toxic chemicals and waste.

This is a draft of a new plan by Region V of the U.S. Environmental Protection Agency to increase public participation in its policies, programs and actions in Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin. We would like you to read it and let us know what you think of it. Please send back your comments by October 30, 1977. Mail comments to:

Public Affairs, U.S. EPA
230 S. Dearborn
Chicago, IL 60604

We have scheduled a series of public meetings in October to take comments or testimony on public participation here in the Midwest. The schedule is as follows:

Oct. 3: **OHIO** Cleveland Public Library, 325 Superior Avenue, 10:30 a.m.-12:30 p.m.; local contact — Jean Davenport (216) 623-2916.
Oct. 3: **INDIANA** Ft. Wayne city-county building, council meeting room, 7-9 p.m.; local contact — Tom Dustin (219) 637-6264.
Oct. 4: **MICHIGAN** Lansing's Lewis Cass Building, mental health conference room, Walnut St.; 1-4 p.m.; local contact — Norris McDowell (517) 373-1214.
Oct. 5: **ILLINOIS** Chicago's Shedd Aquarium, 1200 South Lake Shore Drive, 2-4 p.m.; local contact — Frank Corrado (312) 353-2072.
Oct. 11: **WISCONSIN** Green Bay, County Library, 515 Pine Street, 7-9 p.m.; local contact — Dave Crehore (414) 497-4064.
Oct. 11: **MINNESOTA** Capitol Square Building, conference room a, 550 Cedar St., St. Paul 10 a.m.-noon; local contact — Gail Gendler (612) 296-7283.

STATEMENT ON A NEW REGION V PUBLIC PARTICIPATION PROGRAM

Background

In June of 1977, the Administrator, Region V, charged the Office of Public and Intergovernmental Affairs with the responsibility of developing a new public participation program for the Region.

This action followed concerns raised by a number of citizens on overall implementation of public participation under Section 101(e) of the Water Pollution Control Act Amendments of 1972, and by EPA and various state agencies.

The general feeling expressed in many quarters is that EPA has made an honest effort to involve the public in its decision-making process, but this effort has not been even and has not been consistent in all its programs at the state level.

There has also been a feeling within Region V of EPA, expressed by the Regional Administrator, that a need exists for overall monitoring of public participation activities and that public participation should be extended to all programs managed out of Region V, and not just water programs.

Within the last 18 months, new initiatives have been taken in Region V to increase public participation:

- Environmental Town Meetings and Forums involving meetings and dialogues with citizen activists, businessmen, farmers and others have been held in Springfield, Indianapolis, Marquette, Bowling Green, Grand Rapids and Cincinnati. Each has been followed by a televised open town forum where top EPA and state officials answer questions and comments directly from the public.
- On-scene visits by the Regional Administrator and staff to areas where serious environmental problems have arisen and development of specially tailored programs to insure maximum public discussion of issues to be decided.
- Initiation of an aggressive program to assist local planning agencies and Region V personnel in the development of acceptable water quality management plans under Section 208 of the Clean Water Act.

These additional efforts have been undertaken, in addition to on-going activities for public information, education and participation.

Strategy Used

The approach or strategy used in the development of a new program for Region V has been to review the Guidelines for Public Participation developed by EPA and published in the Federal Register, August 23, 1973 with the thought of extending these guidelines to all Region V programs as a matter of regional policy and at the same time to correct a major deficiency of the August 23 guidelines, that being the lack of designation of responsibilty for monitoring compliance with Section 101(e).

The Region V plan addresses this deficiency by delegating to the Office of Public and Intergovernmental Affairs, responsibility to monitor for the Regional Administrator actions taken to comply with the August 23 guidelines.

Analysis

The August 23, 1973 Federal Register on Public Participation seeks to provide the "interested or affected" public with 1)continuing policy information; 2)program information; and 3) technical information at the earliest practicable time.

The Guidelines thus spell out who the public is — those *affected* or *interested.*

The Guidelines say that each agency shall have an arrangement for providing technical and informational assistance to public groups for citizen education, community workshops, training and dissemination of information to communities.

They also state that each agency shall have standing arrangements for early consultation and exchange of views with interested or affected persons or organizations on the development or revision of plans, programs or other significant actions prior to decision making.

The guidelines also provide for access to information for the public, including grant and permit applications, permits, effluent discharge information, compliance schedule reports and 308(b) information. The Freedom of Information Act of 1975 generally extends exceptions for access by the public to most EPA file materials.

The guidelines further encourage public effort in reporting violations.

Finally, the guidelines say that the Regional Administrator can disapprove or suspend actions before final implementation if public participation requirements are not met.

Based on these guidelines, a new Region V PPP then would provide, at a minimum for:

1) early determination and reporting of proposed programs, policies or actions requiring public input

THE GUTS OF THE NEW PROGRAM

The guts of the new program is an internal order in Region V of EPA that states: "It shall be the policy of Region V to apply provisions of 38 CFR 22757, August 23, 1973 to the development and implementation of all policies, programs and actions in its jurisdiction and to monitor compliance by Region V programs with these provisions.

The Regional Administrator will be responsible for disapproving or suspending actions before final implementation if public participation requirements are not met.

The director of the office of public and intergovernmental affairs will be responsible to monitor the performance of all regional programs in complying with the order and to make recommendations on disapproving or suspending actions if public participation is not adequate.

Each division and office directior is held directly responsible for complying with the policy.

HOW IT WILL BE DONE

The procedures to be followed by each regional program will be to:

(a) Determine early as to which proposed programs, policies or actions require public participation and public notices of these on a weekly basis. The publishing will be done by the public affairs office which will send interested or affected persons a listing of actions for public participation and a brief description that will allow a person to get further involved.

Each listing will include the proposed action, a very brief background, EPA's tentative position, a notice if a public hearing or meeting is scheduled, and a technical information contact point within Region V. We will also report back on the kind of public information received and the final decision. Types of federal actions to be carried might include grants to state agencies, turn over of federal programs to state agencies, EPA environmental impact statements underway, etc.

(b) Determine which members of the public are interested or affected by the proposed programs, policies or actions and consult with them.

(c) Determine the type of information (general, technical) that needs to be communicated with the public for successful involvement and communicate that information.

(d) Determine the techniques of public participation to be used and employ them.

(e) Submit to the Regional Administrator a summary of public participation before final sign-off on all actions defined under (a). These summaries will be reviewed through the Office of Public and Intergovernmental Affairs.

PROBLEM AREAS

At this point in time, we still have not figured out how to effectively involve the States within the scope of this order. We plan to try and get them to adopt similar procedures, but have no specific plan at this time.

DEADLINE FOR SUBMITTING YOUR COMMENTS

You are urged to comment on this program. We hope to issue a final order on November 30, 1977 setting up this bi-weekly newsletter on public participation.

We are open to ideas on better ways to communicate to the public, alternatives to what we have proposed, or suggestions on what else we might do. Our plans for the fiscal year starting October 1 include citizens briefings in each state capital over the course of the year; studies of public participation in state programs; improving our mailing list; and developing materials that show the public clearly how their comments are really used in putting together a government program that affects them.

DEADLINE FOR COMMENTS: **October 30, 1977.**

Remember, bureaucrats like us, affect your life. You should have a say on how we operate.

Thank you.

Milwaukee suit tests EPA policy

The Federal court order to Milwaukee to provide much more treatment for sewage discharged into Lake Michigan has raised difficult policy questions for the State of Wisconsin and USEPA as well as financial problems for the city.

The July 29 decision settled a lawsuit brought by the State of Illinois against Milwaukee for allowing overflows of untreated sewage into the lake. The suit also challenged the adequacy of present water quality standards.

Judge John F. Grady found that, even when the standards are met, the possibility that viruses can be carried south across the state line threatens the health of Illinois residents.

The court specifically ordered Milwaukee to reduce its discharges of suspended solids and the biochemical oxygen demand (BOD) to no more than 5 mg. per liter each, while the present system provides for 30 mg. levels. Under current policies, low priority is given to providing Federal assistance to achieve better treatment than the 1972 law requires.

Judge Grady made his decision under the common law of nuisance instead of the enforcement requirements of the water law. The Supreme Court had already ruled that the State of Illinois could sue the City of Milwaukee.

Milwaukee is already planning to spend about $800 million on sewage treatment to meet the requirements of the water law. The city estimates it may have to spend from $500 to $900 million more to satisfy the court order.

Under the expected formula, Wisconsin would receive a total of $900 million from the $4.5 billion a year for 10 years that President Carter has asked Congress to appropriate for the Federal share of building sewage treatment plants. Thus Milwaukee thinks it could need about one and a half times the Federal funds expected to be available for the entire state. The city is supposed to report its plan for compliance by September 9.

Whether all the Wisconsin funds should be spent on Milwaukee is a dilemma for the state and federal governments. Present policies require that the funds be allocated under a priority system that recognizes needs of all towns and cities in each state to meet the minimum requirements of the law.

Judge Grady said the city has to meet the stricter standards even if Federal funding is not available. He estimated the cost to be about $2 for each household served by the Milwaukee sewage district.

Although he did not prescribe a specific level, Judge Grady urged Milwaukee to reduce its discharge of phosphorus because of its role in accelerating the eutrophication, or aging, of Lake Michigan. He said this has to be done even though the offshore waters of the lake are still quite clean.

He discussed the court's judgement that even though Milwaukee's contribution is only a part of the total pollution discharged to the lake, the city is still obliged to reduce its share substantially.

Lake Michigan has to be protected as a resource for as long as human beings live on earth, he said. He went on to observe that he believes his statement is not just philosophy but a statement of law.

Water usage conservation asked by EPA

Midwestern communities are being voluntarily asked to cut back water consumption 15 percent by U.S. EPA.

In its spring session, the U.S. State environment and public works committee authorized EPA to issue water conservation regulation on its own.

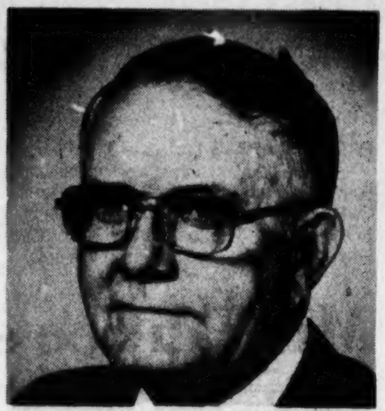
"There appears to be a good possibility that we will be able to withhold all sewage treatment funds from communities that fail to adopt water conservation measures," explained Mike Cook, EPA official in charge of drafting the regulations.

The proposed ordinances, which would take effect as cities apply sewage treatment grants over the next ten years would require:

- Homeowners to install water saving devices in toilets and special shower head and faucets to reduce water flow.
- Builders to install those devices and reduced flow dishwashers and washing machines in all new housing.
- Communities to finance sewage plant operations through sewage user fees rather than property taxes. Discounts for large industrial users would be eliminated.
- Industries to install machinery to recycle water used in manufacturing processes.

Cora Stencil

Frank D. Lessiter



Robert G. Baker

People

EPA Region V recently completed its 1977 Environmental Quality Award program, and here are the 24 winners listed by State.

In Illinois, **Dr. Thomas Murphy**, an Associate Professor at DePaul University in Chicago, received an award for his efforts on thermal pollution, the effect of phosphorus on lakes, and toxic substances. Other Illinois winners are: **The Grove Heritage Association Glenview Park District** for their work in land preservation, **Alta Rush Titus** for land preservation, **Douglas Anderson** for work on the Environment Committee of the Hyde Park Kenwood Community Conference, **Robert Baker** for work with soil and water conservation, and **Kenneth Fiske** for his educational work as Executive Director of the McHenry County Conservation District.

In Indiana, **Mike Olszanski**, Environmental Chairman of **Local 1010 of the United Steelworkers** located in East Chicago, voiced the belief of Local 1010 that high standards must be set, and enforcement against violators, especially big industry, must be swift. This type of innovative thinking for a labor union put Local 1010 among the winners in Indiana.

Other Indiana award winners are **Highland High School** for its work on PCB experimentation, **Dennis Wolkoff** for his efforts with the Nature Conservancy, **Betty Stanford** for her work as Executive Coordinator of the Indianapolis Clean City Committee, **Jen Kahn** for her work with the League of Women Voters, the Gary Air Pollution board, CARP (Citizen Action to Reverse Pollution), and Save the Dunes; **Ellis McFadden** for his endeavors with the Allen County Soil and Water Conservation District.

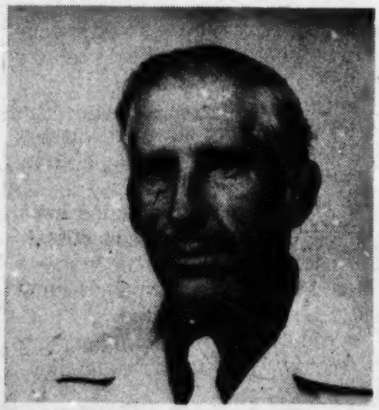
In Michigan, **Dr. Jose Gotay** spearheaded the development of the first comprehensive mosquito control program in the State. Saginaw and Bay counties now have a three-phase control program: source reduction, biological control and larviciding and adulticiding control. Dr. Gotay's program has reduced the numbers of mosquitoes by as much as 80 percent and has also reduced the danger of disease. A posthumous award goes to **Martha Reynolds** for her outstanding leadership and coordination with the United Auto Workers on common problems and mutual concerns about the environment. Another recipient in Michigan is **Tom Opre**, Outdoor Editor for the *Detroit Free Press*, for his editorials on the bottle bill, preservation of wild rivers and wetlands and endangered species.

Pollution Prevention Pays, a **3M Company** environmental program, and the **Center for Local Self-Reliance**, a group devoted to improving the environment in the inner city, are the choices to receive the award in the State of Minnesota.

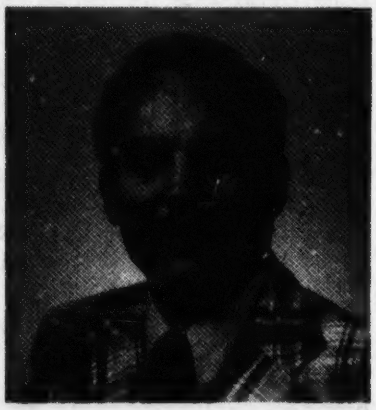
Five Ohio residents and organizations were honored for their efforts to improve the environment. They are: **Pollution Control Services, Inc.**, of Akron for its spill clean-up program; **James Alkire** for the development of the Akron Recycle Energy System; **WKYC-TV** for its programs "The Cleveland Connection" and "The Dirtiest Neighborhood"; **Susan Chenault** for her environmental education program for the Middletown Public School System; and **Marilyn Ortt** for her work with the Buckeye Hills Resource Conservation and Development Project of Marietta.

In Wisconsin, **Frank Lessiter** and **Cora Stencil** were selected for Environmental Quality Awards. Lessiter is the editor of a newsletter, the *No-Till Farmer*, which advocates techniques for soil and water conservation. Cora Stencil is the Natural Resources Chairwoman of the League of Women Voters of Green Bay.

Dennis Wolkoff



Ellis H. McFadden



Dr. Jose B. Gotay

Calendar

Oct. 1, 1977 — Two Technology Transfer Small Wastewater Treatment Seminars will be held after October 1 in the cities of Columbus, Ohio, and Minneapolis, Minnesota. For more information, Contact Marti Velasco in our Research and Development Office.

Oct. 7, 1977 — The State of Michigan has also applied for primary enforcement responsibility under the Safe Drinking Water Act. The end of the comment period on this issue is October 5, 1977, and a public Hearing will be held on October 7. For more information, you may call our Water Supply Branch at 312-353-2152.

Oct. 25, 1977 — This is the fifth birthday of Ohio EPA. For information on the activities that will be held to commemorate this event, contact the Public Affairs Office, Ohio EPA, 361 East Broad Street, Columbus, Ohio.

Hearings will be held in Ohio in late September or early October on the new sulfur oxide regulations. For more information, contact the Ohio EPA Public Affairs Office.

Federal Register

July 19, 1977 — Rules: Air pollution; standards of performance for new stationary sources: Units, International System, and abbreviations. Air quality implementation plans; various States, etc; Arizona, Louisiana. **Notices:** Pesticide and food additive petitions: Chevron Chemical Co., Pesticide chemicals; tolerances, exemptions, etc.; petitions: Fish and Wildlife Service, ICI United States, Inc. Pesticide programs; State registration to meet special local needs; interim certification; various States: Iowa. Pesticide registration: Toxaphene. Pesticides, specific exemptions and experimental use permits: Agriculture Department et al, American Cyanamid Co. et al, GAF Corp. et al, Hoffmann-La Roche, Inc. et al, ICI United States Inc., New Jersey Agricultural Experiment Station et al. **July 20, 1977 — Rules:** Water pollution; effluent guidelines for certain point source categories: Inorganic chemicals manufacturing. Water pollution control: Analysis of pollutants; test procedures; correction. **Proposed Rules:** Air pollution; standards of performance for new stationary sources: Furnaces, glass melting. Air quality implementation plans; various States, etc.: California (2 documents). Solid waste; management, treatment, etc.: Suits, citizens. **July 21, 1977 — Rules** Air pollutants, hazardous; National emission standards: New Jersey; authority delegation. Air pollution; standards of performance for new stationary sources: New Jersey; authority delegations. Air quality implementation plans, various States, etc.: Texas. **Proposed Rules:** Air quality implementation plans; various States, etc.: Arizona. **Notices:** air pollution; ambient air monitoring reference and equivalent methods (2 documents). Air pollution; standards of performance for new stationary sources, etc.: New Jersey, authority delegation. Pesticides; specific exemptions and experimental use permits: Washington state Department of Agriculture et al. **July 22, 1977 — Rules:** Air quality implementation plans; various States, etc.: Lousiana, North Dakota. **Proposed Rules:** Pesticide chemicals in or on raw agricultural commodities; tolerances and exemption, etc.: Aldicarb. **July 25, 1977 — Rules:** Air pollution; standards of performance for new stationary sources: Applicability dates. Motor vehicle fuel economy; 1978 and later model years. **Proposed Rules:** Air quality implementation plans; various States, etc.: California, New York. **Notices:** Marine sanitation device standards: Minnesota and Wisconsin. **Meetings:** Management Advisory Group to Municipal Construction Division. Science Advisory Board (2 documents). Pesticide chemicals; tolerances, exemptions, etc.; petitions: Dow Chemical Co., Mobay Chemical Corp.; correction. Pesticide registration: Applications (2 documents). Pesticides; specific exemptions and experimental use permits: Agriculture Department, et al, Elanco Products Co., et al, Monsanto Agricultural Products Co., et al. **July 26, 1977 — Rules:** Air quality implementation plans; various States, etc.: California, Massachusetts; correction withdrawn. **Notices — Meetings:** Ocean dumping; herbicide orange incineration. Pesticides; specific exemptions and experimental use permits: Michigan Department of Agriculture, Woolfolk Chemical Works, Inc., et al.

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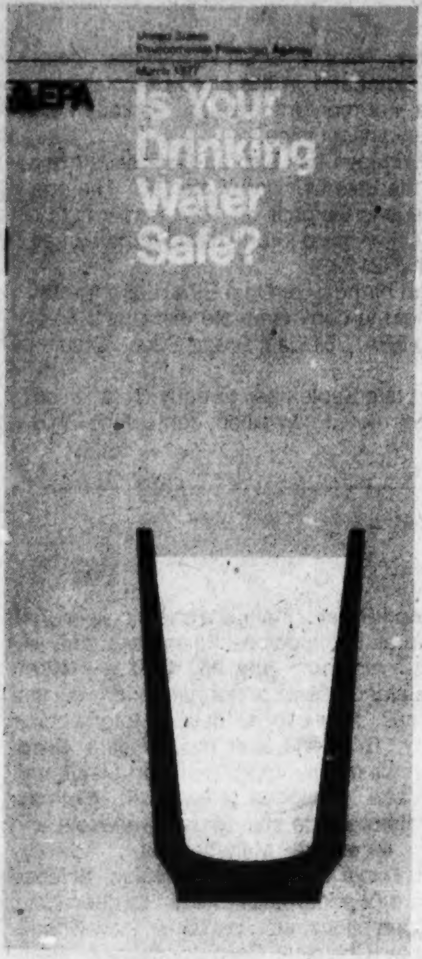
George Alexander, Jr. — regional administrator
Val Adamkus — deputy regional administrator
Frank Corrado — public affairs director
Bill Omohundro — editor
Kathy Brown — briefs editor
Phyllis Kierig — production editor



EPA

Is Your Drinking Water Safe?

Off the press

Literature for you

A World Fit for Chipmunks — Delightful coloring book for children which explores the effects of the environment on animals.

Clean Water and the Beet Sugar Processing Industry — Discusses the Federal Water Pollution Control Act, and explains what the 52 U.S. beet-sugar processing plants must do in order to meet regulations.

Clean Water and the Cane Sugar Industry — Explains the health effects of water pollution, the Federal Water Pollution Control Act, and how pollution from cane sugar plants can be reduced.

Environmental Exhange: a Beginning — A booklet designed for teachers and activity directors which outlines environmental activities and experiments for the elementary, junior high, and high school aged person.

Fun with the Environment — Excellent children's coloring book which depicts the hazards of a polluted environment and explains how children can help in the clean-up process.

Is Your Drinking Water Safe — Discusses the provisions of the Safe Drinking Water Act and explores the detrimental effects that contaminated drinking water has on human health.

Trends in the Quality of the Nation's Air — Through the use of graphs and charts, this booklet describes the successes of various air pollution control programs throughout the nation, and illustrates regional levels of particulates, sulfur dioxide, carbon monoxide, and oxidants.

Up to 15 copies may be obtained by writing: M. Sabella, Public Affairs, U.S. EPA, 230 S. Dearborn, Chicago, IL 60604.

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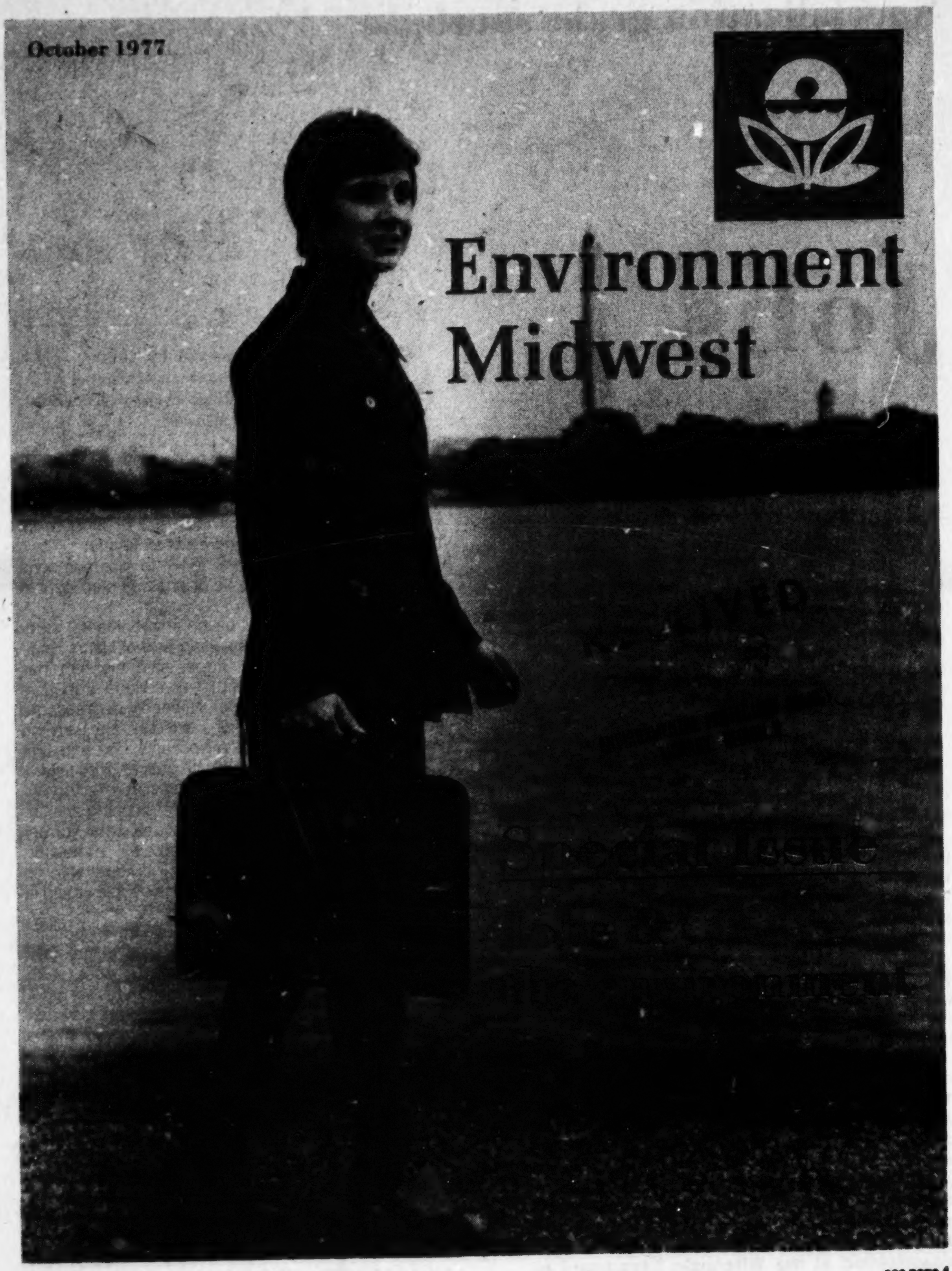
October 1977

Environment Midwest



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Special Issue

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Laura Bennett: toxicologist

see page 4

Specialization grabs spotlight

Jobs

. . . the way things are developing you need to know an awful lot about a little less . . .

This special issue on jobs in the environment was researched and written by William Omohundro, editor, Environment Midwest

Specialize! That's the consistent recommendation of the experts of anyone contemplating a career in environmental protection.

Environment Midwest recently discussed the employment outlook for environmental protection career hopefuls with academicians, personnel directors in both the public and the private sector responsible for hiring environmental workers, and executives in companies that do environmental work.

Almost all said the person who specializes in some applied or pure science field, like sanitary engineering or aquatic biology, has an advantage over the environmental studies generalist when it comes to getting a job.

This is not to discount the importance of a general knowledge of the environment or of general environmental studies. Most of the experts that were interviewed believe that such knowledge is important and desirable. But they give priority to a specialization when it comes to getting a job.

We feel it's best to go for a specific degree as opposed to a general one where we have to do more training," said Paul Willinghanz, assistant director of personnel and director of recruitment classification at the Wisconsin Department of Natural Resources, which this year expects to fill more than 100-125 vacancies at all levels.

Willinghanz believes it's better to hire someone trained as a specialist so he or she can step right in and start a job.

Dr. Peter Ames, head of the environmental studies department at the consulting firm of Harza Engineering Company of Chicago, said his firm has found that the training being given college graduates with general environmental sciences degrees are not suitable for entry-level positions. He said an entry level person needs a specialty first and that generalization can come after he gets into the field.

"I think many of the colleges that are offering environmental sciences degrees are skipping the intensive training in one specialty," said the former University of California at Berkeley professor. "They're producing a very broad individual with no depth. I find it hard to see how those people would fit into a specialist organization."

Donohue & Associates of Sheboygan, Wisconsin, is a company which has mushroomed in the past five or six years from 100 employees to about 400. The consulting engineering firm attributes its phenomenal growth to EPA's program in wastewater treatment. About 60 percent of its work is in this field.

Donohue Associate Dick Fedler said the company has received many applications in recent years from people who have been trained as environmental generalists. "We don't have that many openings for them because they're so generalized. I would tell people to specialize more. Our type of work is more oriented towards somebody who has gotten into the specifics, be it sanitary engineering, biology, soils or work related to wastewater treatment, water supply, and solid waste disposal.

"It's nice to have a general background," he continued, "but you come out knowing a little bit about a lot and I think the way things are developing you need to know an awful lot about a little less and depend on more people to get the full imput to a project."

Battelle Memorial Institute of Columbus, Ohio, is a research-oriented firm with a staff of around 2,500. Between 10 and 15 percent of these employees are working in environmentally related programs. Of the 125 new employees hired last year by Battelle, at least 25 were hired for work related to the environment.

Battelle's Employment Manager, Leslie G. Hill, said his company hires mostly science and engineering professionals. "If they become too generalized, they hurt themselves," he said.

Hill said the emphasis at Battelle is on the engineering aspects of science, the practical application of present knowledge. "Changing that, revamping it, taking old knowledge and doing some new innovative things," he added.

Zimpro, Inc., of Rothschild, Wisconsin, has about 500 employees working in research, design and engineering in the environmental area. Their specialties include development of systems for treatment and disposal of sewage sludge, advanced wastewater treatment systems, and resource and energy recovery. Like Donohue & Associates, Zimpro's growth from 125 in 1970 to its present staff of 500 can be attributed to EPA programs.

Zimpro Communications Director James Force said his company employs such specialists as draftsmen, laboratory technicians, welders, mechanical engineers, and sanitary engineers.

Although the majority of Zimpro's employees have bachelor's degrees, the company hires a large number of two-year graduates of Wisconsin's vocational-technical schools, according to Force.

Dr. Daniel Trainer, dean of the School of Natural Resources at the University of Wisconsin-Stevens Point, observed: "It seems that, in this day and age, what is really needed is somebody who has a specialty. They need the broad background in resources, but they still have to have the specialty that they can hang their hat on."

Battelle Memorial Institute hires 10 to 15% of its employees to work in environmentally related programs.

Trainer said many of the students who have graduated from his school with very general environmental training have had problems as far as job opportunities in the environmental field are concerned.

The 3M Company of St. Paul, Minnesota, has a staff of over 50 people working in its environmental department. Dr. Joe Ling, who directs the 3M environmental program said: "Our company is a new products, new technology oriented company so we have to solve our own problems our own way because the processes we use are the only one used in the industry. We cannot rely on the experience of some other company.

"We really have to invent our own solution based on what we learn through our own experience and working together with other knowledgeable people. So our basic need in bringing new blood into our organization is for specialized people," Ling said.

About 75 percent of the 3M environmental staff are engineers, and the rest are science professionals or laboratory technicians. Of the 50 people on the staff, about 15 percent have Ph.D. degrees and more than 70 percent have at least one master's degree. The six or seven laboratory technicians are products of vocational-technical programs.

Chicago's Metropolitan Sanitary District hires from its own civil service system

Don Morrison is director of personnel for the Metropolitan Sanitary District of Greater Chicago, which operates one of the largest and most sophisticated wastewater treatment programs in the world. "We have our own civil service system," he said. "We're required by law to give jobs on the basis of a competitive examination and 97 percent of the employees at the sanitary district have permanent civil service status."

Morrison would advise a person who is contemplating a career with the MSD to study the typical pre-engineering curriculum or some field of science. He said the baccalaureate degree is the goal.

The MSD personnel director said the field of wastewater treatment plant operation is one of the biggest growth opportunities for young people today in the public service and in the area of environmental protection. "There are just almost unlimited possibilities," he said. "We for example have a tuition reimbursement program. Somebody can come in here after high school at a sub-professional leval and by going to night school work his or her way up to a professional position.

Some of our top-level engineers right now are the product of that kind of program. It's an unlimited opportunity."

Of the 2,500 MSD employees, 328 are at the professional engineering level and 197 are sub-professional engineers. The professional scientific staff consists of 62 people, and there are 145 sub-professional science technicians. The MSD has 435 plant and equipment operators, 283 tradesmen (including one blacksmith), 438 laborers and 19 lawyers on its staff.

So, all of this testimony leads us to the conclusion that, if one is contemplating a career in environmental cleanup, he or she would do well to get a background in some area of science or engineering. The word for the wise who want jobs is *specialize.*

Laura Anderson Bennett: toxicologist

Toxicologists are in short supply and great demand. The bullish market for these science professionals is largely a result of the Toxic Substances Control Act passed by Congress in 1976.

EPA's 27-year-old Laura Anderson Bennett is riding the crest of this wave of demand. As a reproductive physiologist toxicologist in the Metabolic Effects Branch of the Agency's Office of Pesticide Programs in Washington, D.C., the Cleveland native is on the "cutting edge" of EPA activity in this field.

Her major duties include coordinating and conducting reviews of pesticide chemicals. These reviews may include the compilation, study and evaluation of literature and all relevant materials pertaining to absorption, distribution, excretion, and mechanism of toxic effects of the chemical under review.

"I also validate or invalidate the trigger for rebuttable presumption against registration of a pesticide and am responsible for preparing in-depth reports for the development of guidelines, classification, regulatory issues and research needs," she said.

Additional responsibilities include training new employees in her area of expertise. She is expected to keep up with the latest developments in her field by attending appropriate national and regional meetings and by taking advantage of training programs available through the agency.

In addition, she acts as a liaison for personnel between her branch and the EPA Personnel Office. In this role, she coordinated a recruiting program for toxicologists last spring. She is also responsible for coordinating training programs in her branch.

"I am a representative from the Office of Pesticide Programs to a Toxic Substances Control Act work group which is responsible for providing guidance for submission of test data, guidelines, on quality assurance of test data and recommendations regarding initial testing requirements for toxic substances."

After graduating from Cleveland's Willoughby South High School in 1968, Bennett went on to Smith College where she took her B.A. in 1972 in cellular and molecular biology and was a member of Sigma Xi. While a student at Smith, she spent the summer of 1970 as a research assistant in the plant tissue culture laboratory of the University of Hawaii's horticulture department, and the summer of 1971 as a research assistant in the laboratory of bacterial genetics at Vanderbilt University's molecular biology department.

In 1974, Bennett earned a master's degree in physiology at Duke University with a thesis entitled "Isolation and Monolayer Culture of Human Corpora Luteal Cells: Initial Studies of Gonadotropin Binding and Progestin Secretion." The summer of 1973 was spent at Duke's department of physiology as a research assistant in the high risk pregnancy laboratory evaluating serum levels of estrogen and progesterone by radioimmunoassay.

At Duke, she met her husband William Philip Bennett, a Princeton graduate who was attending the Duke Unviersity Law School and who is now an attorney for the U.S. Postal Service. "Two weeks after we were married, we took a position as 'dorm parents' in a coed dorm at Duke and had a family of 76," she said.

After graduation we came to Washington so Bill could take the position with the Postal Service. At this point I wanted to get some work experience before continuing with school. I wanted to make sure that I could find a position which would be rewarding and utilize the training I had before seeking another advanced degree.

"The U.S. Government seemed like a good place to job hunt, being in Washington. I interviewed at several agencies and finally accepted a position with EPA," she continued.

For the past two years, the Ohioan has been taking advanced courses in toxicology, pharmacology and physiology at George Washington University.

Bennett attributes her decision to pursue a scientific career to her participation in Science Fair during junior and senior high school with her identical twin sister, Linda Anderson Oglesby, who is now at North Carolina State University in Raleigh where she expects to complete work for her Ph.D. by the end of the year. "In 1968, Linda represented the Greater Cleveland Area at the National-International Science Fair in Detroit and won third place in her division," she noted. She said her sister plans to take a post doctoral position on toxicology at the National Center of Toxicological Research in Jefferson, Arkansas.

Bennett likes her job. "I find my job highly rewarding and would choose it again, particularly since there is a critical shortage of toxicologists and an increasing demand for people with this training," she observed.

"I feel that the evaluation of toxicological data on pesticide chemicals for potential hazard to humans and domestic animals is important work and is an important example of a 'public servant'."

Bryan Tabler: attorney

" . . . the most frustrating problem is that it is well-nigh impossible for a state to develop clean air act implementation plan control strategy revisions . . . "

Tabler

As a member of the Indianapolis law firm of Barnes, Hickam, Pantzer and Boyd since 1972, Attorney Bryan Tabler, 34, advises industrial corporations and electric utilities on problems involving environmental law and represents them before state and local pollution control agencies, the EPA, and in state and federal courts.

He also counsels firms in obtaining tax exempt pollution control revenue bond financing for construction of pollution control facilities.

A former infantry officer who served in Vietnam and Germany, Tabler took an A.B. degree at Princeton in 1969 and a law degree at Yale in 1972. He didn't plan to become an environmental law specialist when he was in law school.

"It never dawned on me," he said. "I came out of law school about the same time the Clean Air Act and the Federal Water Pollution Control Act came out of Congress. When our clients first began to need advice in the environmental area, I was assigned research problems in the field by the senior people in our law firm."

But, after five years in the field, the New Albany, Indiana, native has no regrets. He would go into the field again if he had it to do over.

Particularly gratifying to him has been "the opportunity to get in on the ground floor of a rapidly developing and intellectually satisfying area of the law, to grow with it and to have some minor influence on the course it has taken. Most young lawyers have to spend several years catching up with an already developed area of the law that they wish to specialize in," he said.

Another satisfaction is the area of problem solving. "I think, like most lawyers in private practice, I just generally like to help people solve their problems."

What's the biggest problem he's encountered in practicing environmental law? "The most frustrating problem is that it is well-nigh impossible for a state to develop Clean Air Act implementation plan control strategy revisions acceptable to EPA by reason of the fact that EPA's standards for supporting data are a moving target," Tabler said.

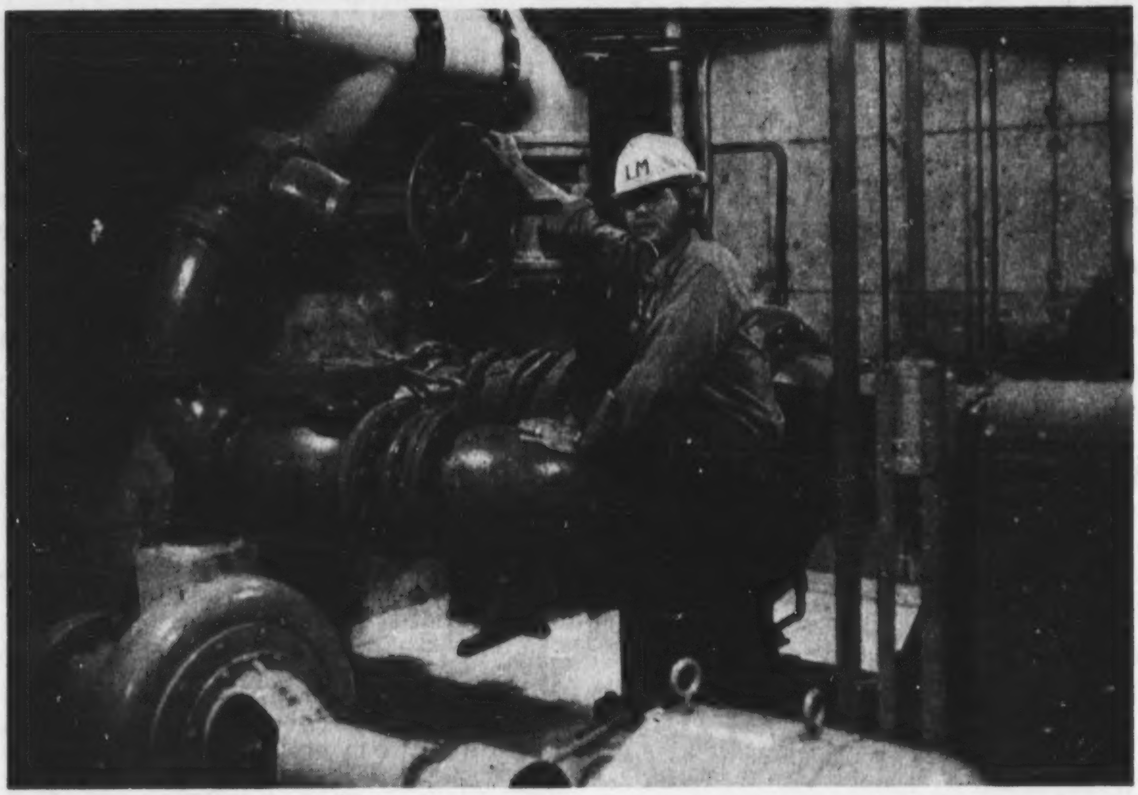
"That is, EPA's policies effectively thwart adoption of more accurately based emission limits and leave in force limits adopted many years ago on the basis of analytical techniques now deemed archaic by several generations on the grounds that the newly-proposed limits are based on analysis only a month or so behind the current vogue. This amounts to a policy to the effect that 'if we can't be perfect we won't improve at all'," Tabler concluded.

What does the future hold? Tabler thinks things look particularly bright for people on the technical side. "Anybody who's bought any knows that pollution control technology is in a relatively primitive state and I think large numbers of people will be occupied for years in inventing, applying and improving it."

On the legal side, however, he said he doesn't have a good idea of what the future holds. "Until now, lawyers, administrators and judges have been occupied in a large-scale effort to implement new laws, fill the gaps in them and clear up their ambiguities. It's possible that, hereafter, compliance with environmental laws will become as routine as driving a car with a driver's license.

"On the other hand," Tabler continued, "I think a scarcity of resources, coupled with the American desire for a constantly rising standard of living, creates a definite long-term conflict between environmental goals which are expensive to attain on the one hand and the need to employ scarce resources and dollars in the most productive manner on the other."

He said the choices to be made among these goals are largely political, but, to the extent the choices continue to be made, he thinks that lawyers, regulators and judges are likely to have a significant role in articulating them.



Larry Meckle: treatment plant operator

Over the past five years, well over $20 billion of the taxpayers' money has been spent for the construction of sewage treatment plants designed to clean up the nation's lakes and streams and keep them that way.

If these plants are going to do the job they're being built for, treatment plant operators as skilled as 41-year-old Larry Meckle of Anoka, Minnesota, will be required to keep them running at peak efficiency.

For the past 15 years, Meckle has been an operator at the Anoka Wastewater Treatment Plant, which is part of the Metropolitan Waste Control Commission system of the Twin Cities Area.

When he first started work at the Anoka plant, it had a trickling filter system, but for the past seven years the plant has operated with an activated sludge system and Meckle has held the position of chief operator.

"Mainly, my job is process control, lab analysis, record keeping and making sure everything is going correctly," Meckle said. "I also have to keep an eye on pumps, blowers, and standby generator to make sure they're in good working order."

Meckle said record keeping is crucial. "One thing you really have to do is keep good records. We have a weekly data sheet with everything listed on it that we should be monitoring."

The list includes such things as flow, settleable solids, precipitation, return sludge gallons per day, dissolved oxygen, mixed liquors, suspended solids, temperature, pH, and chlorine residual. "We send all this information in to the central office in St. Paul and then they come up with a monthly report," Meckle said.

The Anoka plant is 35 miles from St. Paul and is located at the confluence of the Rum River and the Mississippi River. Although it is designed to treat 2.5 million gallons a day (MGD) of wastewater, it is presently treating 2 MGD.

The plant now operates with a staff of four — the superintendent, the chief operator and two assistant operators. "They're talking about expanding the plant to 5 MGD," Meckle said. That would probably require the addition of another person to the staff.

Meckle and his two assistants each work an eight-hour day and a five-day week, but the plant is manned seven days a week. The three operators take turns manning the plant on weekends which means they have to work every third weekend. Nighttime monitoring of the plant is done by a computer located at the Seneca plant, part of the Metro system. The operators are on standby 24 hours a day in case they get a call from the Seneca plant computer monitoring station.

"Also," he said, "we're hooked up to the Anoka police department so that if somebody's not monitoring down at Seneca, they get an alarm and call us anyway. So we're pretty well protected in case we have a pump failure or something."

Fifteen years ago, in the middle of a Minnesota winter, Meckle was working on a survey crew of an engineering firm that was constructing facilities for sewage treatment plants. "It's kind of cold when you're on a survey crew, so I decided it would be kind of nice to work in one of those plants we'd been building," he recalled. He heard about the opening at Anoka and applied for the job. The City of Anoka hired him and he's been there ever since.

"I started these training sessions at the University of Minnesota and each year I try to attend something that's going on pertaining to sewage treatment. We have quite a bit of training available if a person wants to improve himself. I think there's a lot of opportunity in wastewater for anybody who wants to really get out and work," he said.

There's plenty of evidence that Larry Meckle has followed his own advice and really gotten out and worked. Over the years, he's worked his way up from the beginner's "D" level state license for a wastewater operator to the coveted "A" level state license. To get the "A" license, an operator has to have at least seven years experience as an operator or equivalent education and be working in an A-level wastewater treatment plant.

A candidate for such a license must pass a written examination and go before a committee of the Minnesota Pollution Control Board and pass a tough oral examination. "They just don't hand out an A license," Meckle said.

Meckle has also received recognition from his peers. This year, he was nominated by the Metropolitan Chapter of the Minnesota Wastewater Operators Association for the coveted Minnesota "Operator of the Year" award for an "A" plant.

In his letter of nomination, John Almo, president of the Metropolitan Chapter of the MWOA, said: "His enthusiasm for his work instills a positive attitude in his fellow employees and this in turn leads to a cooperative team effort which has given the Anoka plant a reputation for excellent plant operations and appearance. As a key employee at the Anoka plant, Meckle is an example of how pride in one's work place have led to ever higher achievements. He sets a high standard of excellence among the Metropolitan Waste Control Commission operators."

Philip R. Campbell: industrial environmentalist

"You can't afford to sit around and wait. You really have to plan and come up with what you feel will be a cost effective method of meeting whatever federal regulations are proposed . . . "

Today, most industries of any size have a staff member who is charged with responsibility for pollution control. Nekoosa Papers Company at Port Edwards, Wisconsin, is no exception.

Over two years ago Nekoosa hired Philip R. Campbell, 35, as their corporate supervisor for environmental protection. Campbell is responsible for the company's environmental programs at all mill sites. He oversees Nekoosa's present programs and is in charge of making plans for meeting future pollution control deadlines.

"You can't afford to sit around and wait. You really have to plan and come up with what you feel will be the cost effective method of meeting whatever federal regulations are proposed," Campbell observed.

"We typically will hire a consultant to do a major job and we review their work to keep track of what's going on. We get very much involved in the design phase and equipment selection.

For example, the consultant might prepare recommendations giving us a choice of four different clarifiers, but we make our own decision on what type of clarifier we will buy," he said. "We have to make sure we're getting a system that will adequately perform and meet the standards."

Campbell reports to the manager of engineering at Nekoosa. Each Nekoosa mill — they have three pulp and paper mills in Wisconsin and one in Arkansas as well as four forest products industries — has an environmental engineer who reports to the mill's technical director. "We have a liaison with the technical department at all of our mills in order to coordinate the whole program." Campbell often travels four or five days a month to keep tabs on the company's environmental program.

In the water pollution area, biochemical oxygen demand (BOD) and suspended solids are the biggest problem for the pulp and paper industry, according to Campbell. He said the two major air pollution problems are particulates and sulfur dioxide. "The odor from pulp and paper mills is unattractive, but it's not hazardous to human health," he added.

Campbell thinks the water and air pollution problems will be solved in this country relatively soon, but he is concerned about solid waste. "I think this whole question of solid waste is really going to come and hit us on the head pretty soon because we're taking all of these contaminants out of the air and the water and you have to have someplace to put them. So I believe over the next 10 yers the real challenge is going to be in the field of solid waste disposal."

The problem of toxics is also of concern to him, although he thinks it's not such a big problem in the pulp and paper industry.

A native of Woodland, Maine, a town of about 1,500 people on the St. Croix River which serves as the boundary between the United States and Canada, Campbell began his career in the paper industry in the mid-1960s after spending two years as a teacher of science and mathematics at Woodland High School.

In 1966, the University of Maine graduate joined Georgia Pacific Corporation's Woodland plant full time in process work with pollution control his primary responsibility. "You have to have a pretty sound process knowledge to really be effective in controlling the pollution end of it," he noted.

"I think this is true of most industries. You've got to have a knowledge of where the pollutants are generated and how to control them at the source. It's better to try and control things at their source, to recycle, to reduce volumes of water and recover chemicals where you can than to add the so-called end-of-the-pipe technology."

To Campbell, an important satisfaction is actually being able to see the results of his work. "I really feel that this type of work with an industry gives you a chance to really feel that you are contributing to environmental improvements."

"I think I get more satisfaction doing this than I would working for a regulatory agency because you actually feel that you've got some influence and you can really make things happen, or have a great deal of influence in making things happen. You can see the results."

Alex Sagady: citizen activist

"It is fun to exert pressure on elected and agency officials by flooding their offices with mail or by tipping off the press about their activities . . ."

Alex Sagady, 27, is a citizen activist. For the past five years, as coordinator for Environmental Action of Michigan in Lansing, Sagady has been working to keep pressure on government to control pollution.

"Unfortunately," he said, "the victories that environmentalists have are frequently few and far between. However, I am committed to keep working at all of this because I am confident that the nature of our environmental and natural resource problems will inevitably force us, in our living and economic patterns, to change our current wasteful lifestyles and societal institutions."

Sagady believes these changes are inevitable. "However," he added, "the dilemma that we have is to bring these changes about sooner so we will experience less dislocation and mismangement of our resources and keep more of our future options open."

The Michigan environmental activist spends a lot of time on the telephone talking with legislators or their aides, with Michigan Department of Natural Resources officials and officials of other state bureaus, with citizens around the state and organizational leaders, with volunteer activists and with university professors.

"I have also found that it is useful to talk with the 'opposition' — industry officials, legislators, etc. Such discussions enable you to fine-tune your arguments," he noted.

Sagady says there is a certain amount of "fun" associated with "watching the policitican and bureaucrats." His work frequently involves letting these officials know that many people throughout the state are concerned about the way they conduct the public's business.

"It is 'fun' to exert pressure on elected and agency officials by flooding their offices with mail or by tipping off the press about their activities," he pointed out.

Other activities in Sagady's busy schedule include meetings, talks to various groups, letter writing, work with the news media, checking out agency

files, attending public hearings and giving testimony, meeting with his group's board of directors, financial and organizational work, keeping up with research and reports, and working with volunteers.

Current activities of Environmental Action of Michigan are:

- Environmental health and natural resource implications of uranium mining in Michigan's Upper Peninsula.
- Compliance of major dischargers (utilities, power plants, etc.) with sulfur dioxide emission regulations.
- State policy on the siting and regulation of radioactive waste facilities.
- Funding of transportation programs (public transportation).
- Environmental education legislation.

Sagady completed elementary and high school at St. Clement Grade and High School in Center Line, Michigan, and went on to the University of Michigan at Ann Arbor where he earned a B.S. degree in physics and mathematics education. In the fall of 1972 he began his teaching career at Plainwell High School in Plainwell, Michigan.

"I lasted in this position approximately a week and a half," he said. "Although I enjoy teaching — about science and the environment — I was not willing to participate in a traditional school system for several reasons too long to mention here," he continued.

"One of my physics professors — Dr. Marc Ross at U. of M. — told me about the organization I am now working for. I came up and did volunteer work. Nine months later, I became coordinator of the organization."

In addition to his regular job, Sagady serves as air quality consultant to the Michigan Lung Association and is a board member of the Michigan Pesticides Council.

In addition to his commitment to work in an "alternative" occupation, he has adopted an alternative life style. All of his annual expenses total approximately $2,500. He commutes to work daily on a bicycle (nine miles round trip), except for about three weeks in January when the snow is too deep (then he uses a bus). He does not own a car, and he enjoys 50 mile bike rides in the country during spring, summer and fall.

"When I go on vacation or I travel to another city," he said, "I hitchhike." He recently completed a trip to Wyoming, and, last winter, he went to Arizona. He frequently hitchhikes in Michigan as well, particularly to meetings he has to attend.

He does not eat meat. He will eat fish, shrimp, cheese and other dairy products as well as eggs. "Being an avid gardener," he said, "I enjoy cooking fresh vegetables."

"I am involved in the cooperative-economic democracy movement. I live in a housing cooperative, eat food from a food cooperative and patronize the bicycle cooperative," he continued.

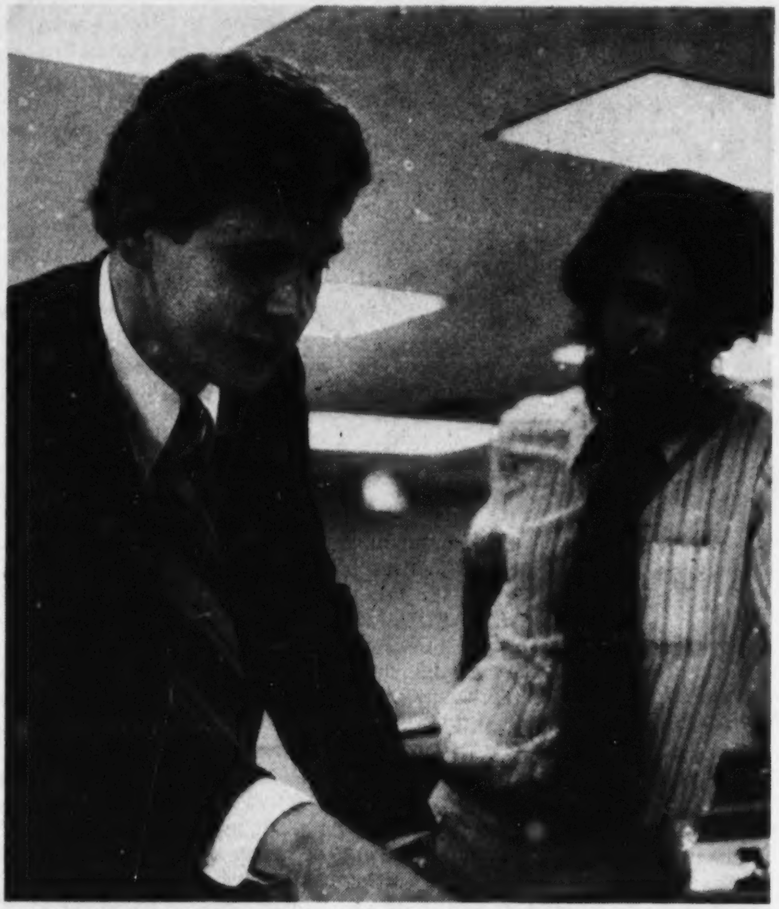
For diversions, Sagady plays the piano and the flute, and enjoys camping and hiking in the wilderness. He recently completed 80 miles through the Wind River Mountains in Wyoming and a 20-mile segment of Lake Superior shoreline.

"Last winter," he said, "I completed 30 miles through the Grand Canyon and 20 miles through the Painted Desert." On his agenda for next summer is a trek through 150 miles of wilderness shoreline in Canada along Lake Superior with no trails or roads.

A recipient of EPA Region V's Environmental Quality Award for a Citizen Activist, Sagady feels the past five years have been productively spent and he has no plans in the immediate future for leaving.

"This last statement should be qualified somewhat," he added. "I am generally not very worried about planning my future out.

"I would do this all over again," he said. "I have no regrets."



Robert E. Molzahn, left, department head in Harza's sanitary engineering division, was project manager of Harza's 208 work for the OKI Regional council of Governments in the Cincinnati area. John Velon, right, is Harza's resident coordinator on the OKI 208 work.

Profile

Robert E. Molzahn: consulting engineer

For the past two years, 31-year-old Robert E. Molzahn has been a department head at Harza Engineering Company, a Chicago-based consulting engineering firm which has over 100 of its staff of about 1,000 working on environmental problems.

Molzahn's department is in the planning and process division. "The type of work we do in this division basically involves planning studies up to almost what is considered a preliminary engineering design," he said. "It's the concept development of a particular project."

Types of projects include water quality basin surveys, wasteload allocation studies, the Section 208 program study, facility planning which is the Section 201 program, and with industrial waste there are treatability studies, field surveys, and identification of particular water quality problems for an industry.

"Each type of study involves several fundamental steps in the approach. We normally start a project with a field survey or some type of study to gather data.

"Then the data is analyzed and the problem is identified. Problem identification is really a critical aspect of the type of work we do in this division. Also, some perspective has to be put on the problem — magnitude, frequency, cost, resources, and constraints — in order to formulate alternatives."

Molzahn said after alternatives are formulated and evaluated the client must be provided with a preferred alternative and a number of other alternatives from which to actually make his final selection.

"The fundamental aspect of conducting these activities as a consulting engineer, I think, is to provide the client the best possible perspective from which to make his final decision.

"I personally have been involved primarily in "208" (water planning) types of studies, and wasteload allocation, where computer simulation has been a major tool in identifying problems and formulating alternatives. In most of these areas there's a lack of historical data to get a full perspective of the problem and it forces one to use a simulation tool to predict what's going to happen in the future. Right now one of our current areas of interest is in urban runoff and its impact on the receiving stream."

Molzahn was project manager for the point source aspects of an Areawide Waste Treatment Management Plan (Section 208) for the Cincinnati area. The study includes computer simulation of receiving streams in the three-state, nine county region and of the combined sewer system in Cincinnati.

A 1968 graduate of Purdue University with a bachelor's degree in chemical engineering, Molzahn went on to Northwestern University for a year of graduate study in chemical engineering and environmental health before going to work in 1969 for the Metropolitan Sanitary District of Greater Chicago as a civil engineer at the Calumet Sewage Treatment Plant.

After a year with the MSD, he moved on to the University of

Wisconsin at Madison where he earned a master's degree in sanitary engineering in 1971 with a thesis entitled "Consideration of Control of the Activated Sludge Treatment Process."

While working on his master's degree, he served as an environmental engineer for the Wisconsin Department of Natural Resource's Division of Environmental Protection where his duties included inspection and evaluation of municipal and industrial waste treatment plants, municipal water supplies, and solid waste sites as well as the preparation of reports for 24-hour sewage treatment plant studies and sanitary surveys of municipal water supplies.

In 1971, Molzahn joined Harza and served as a sanitary engineer until 1975 when he assumed his present supervisory position. "The number of people I supervise may vary depending on the particular projects that are going on at the time. I believe right now I have about 8 to 10 people that are assigned within my department. Some of them are working on projects that I'm not involved in," he said.

"As a supervisor, I have primary responsibility for providing technical direction and guidance for their work," he continued. "I think it's a difficult job and one is always learning how to do it."

Molzahn thinks consulting engineering could be a creative field. "I think you can make it very creative. As a consulting engineer, you have to at least consider as many innovative ideas as you can. Then you have to temper these with what is practical. But I think it's always important to provide that consideration as you move into the project to see if there isn't something that would benefit the client."

Molzahn's job satisfactions comes mainly from problem solving and in finding new approaches and new ways to solve problems. "The job satisfaction is primarily in consulting engineering and doing the type of work where you take a problem and see whether there isn't a better way of solving it than any way that's been used traditionally."

Profiles

Cynthia Beach: Ohio EPA environmentalist

When 24-year-old Cynthia Beach took her bachelor's degree in biology at Wittenberg University in Springfield, Ohio, in 1975, a tough job market forced her to take temporary jobs as camp counselor and secretary.

But, after landing her first professional job in March of 1976 with the Ohio Environmental Protection Agency, she has made up for lost time. After little more than a year on the job as a biologist, she was promoted last summer to chief of Water Quality Standards and Assessment.

Recounting the events of the past year-and-a-half, the Toledo native said: "In March of 1976 I responded to an ad in the newspaper about a special River Basin Planning Project the Ohio EPA was conducting. They were looking for people with science backgrounds."

Since she had no actual work experience in the environmental sciences, she started on the ground floor as the only female member of a field surveillance crew of 10.

"Most of the crew were recent college graduates with little experience," she recalled, "but we soon learned how to take stream measurements, such as dissolved oxygen, pH, and conductivity. I took stream flow measurements, chemical stream samples, and generally obtained a good picture of water quality in Ohio."

She believes her knowledge of actual stream conditions, combined with historical data, has proved essential to her work in applying use designations to Ohio's waters.

"Toward the end of the summer," she continued, "I began working in the office as the data evaluation and projections coordinator, first for the Muskingum River Basin and then later for the Scioto River and the Little Beaver Creek Basins."

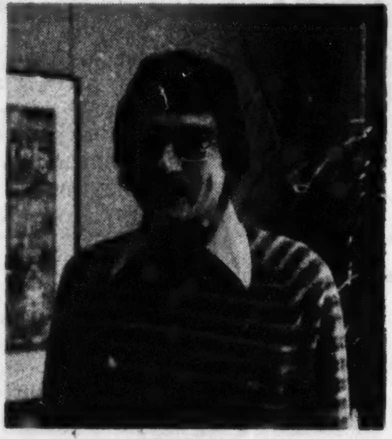
The work involved researching available instream and discharge data to determine existing stream water quality. The information obtained was used for the development of recommendations for wasteload allocations, and for changes in the use designations of the existing water quality standards.

"The evaluation of water quality through field surveillance and data evaluation prepared me for my next job as the assistant chief of Water Quality Standards in the Divisions of Water Quality Planning and Assessment," Beach said.

"I was hired to assist in the formulation of water quality standards which are being revised this year," said Beach. "The formulation process required an extensive review of research literature and ambient water quality data to determine the effects of aquatic life and public health."

Other responsibilities in this job included drafting statements and technical papers for hearing and meetings of various basin commissions and committees, the handling of correspondence from industrial and public concerns, field verification of use designations and standards, and preparation for public hearing or court actions dealing with water quality.

In her present job, Beach retains the responsibilities already mentioned, but she is now in charge of water quality standards during the final stages of the review process. She is also vice-chairman of a committee which was established to make recommendations to the director of the Ohio EPA based on comments submitted to the hearing record, and is responsible for writing the committee proposals. In addition, she is in charge of the annual water quality report for 1977 required by Section 305(b) of the Federal Water Pollution Control Act.



John Schuster

Schuster is training officer in the Region V Personnel Branch

- **Good Morning, EPA Personnel**
- **Hello, could I talk to the head of the Personnel Dept.?**
- **He's in a meeting right now. May I leave a message?**
- **Well, er, I'm looking for a job and, uh, well, I was hoping I could work for the EPA becuz' I'm graduating soon with an environmental health degree.**
- **I see. Let me connect you to one of our staffing specialists. She can tell you what our present hiring situation is . . .**

By John P. Schuster

Phone conversations like this are commonplace in Region V's personnel office. People call in regularly, and visit in person too, to find out what their chances are for working at EPA. The overwhelming percentage of professionals seeking employment at EPA are not just looking for work. According to Carol Anderson, a staffing specialist, they are looking for a meaningful career experience in the environmental field. As a federal agency with a unique and widely known mission, EPA attracts engineers, physical scientists, lawyers, and administrative and clerical support staff, who are highly committed to curbing pollution and enhancing our natural environment. Carol says that "90% of the people I talk to who want jobs are seeking work in the environmental field. They like what EPA's doing and want to be part of it."

A commitment to the environment, however, doesn't lessen the requirements that a job seeker must meet in order to work for the Federal government. After a person contacts EPA for work, he or she usually finds out that the United States Civil Service Commission (CSC) is the initial contact point for Federal employment. The CSC is the personnel branch for the Federal government, and its mission is, among other things, to maintain a pool of persons available for hiring by the other federal agencies. So, if you are looking for work at EPA, the first "must" for you is to get your name on a Civil Service Commission register. It is from the various register of persons with the right qualifications listed in ranking order, that EPA managers are able to pick the people that they want.

EPA's greatest hiring needs are in the engineering and physical science fields.Sanitary, civil, and environmental engineers carry on the extensive monitoring and grant program responsibilities in curbing water pollution. Chemists, hydrologist, and other physical scientists are also needed, in both the air and water programs. All get their names on the CSC registers by sending their credentials to the Dayton CSC office.

The lawyers who spearhead EPA's enforcement efforts make up one of the few professional categories which doesn't require placement on a Civil Service Commission register to be hired. Although EPA hires predominantly technical staff, accountants, environmental protection specialists, administrative officers, vouchers examiners, and public information specialist are just a few of the positions that can be filled by non-technical persons through the PACE exams (held by the CSC) or, more commonly, the Mid-level register. Clerical support is constantly needed at the Region and clerks, typists, and secretaries can be hired from the CSC registers resulting from the examinations for clerical personnel. Complete job information for all job categories, Civil Service Commission Tests, and registers can be received from the Federal Job Information center in Chicago (800-353-5136). And specific EPA hiring needs can be determined by contacting the Region V EPA personnel office (312-353-2026).

There are many avenues to employment at EPA and each person finds his own. The Civil Service Commission and EPA's personnel office are gates through which everyone must pass, but the variety and richness of the personnel at the Region convinces any observer that these gates are open to committed and qualified personnel. The mix of skills required to accomplish the agency's mission guarantees that everyone, from community planners and lawyers to hydrologists and typists, will all interact to get the job done. The experience of working at EPA can be frustrating, exhilarating, grinding, rewarding, and lots else. But regardless, everyone here has something unique to offer, something valuable to contribute.

Sometimes new employees entertain inaccurate expectations of what working at EPA is like. Young engineers picture themselves doing advanced design work, or community planners view themselves saving communities from abusive land use practices by reading out of their college textbooks to local politicians. Instead, program regulations, loads of paperwork, administrative reviews, and a complex social/political miliey for environmental decisions, all prevent even the most talented and most committed of individuals from achieving all of their envisioned hopes. After that frequent initial deflation for new employees, however, comes the digging-in time, when persistent employees pay the price to achieve new skills and levels of competence, so that their work to curb pollution becomes a reality.

How do you get to work for EPA? You gain skills and knowledge, you commit yourself to working for the environment, and you ready yourself for the testing and interviewing process of the CSC and EPA's personnel office. There are no guarantees you'll ever work here; there are no guarantees you'll like it, once you do. Fortunately, working for the environment doesn't necessitate working at EPA. Pollution-fighting starts at the community level, and the consciousness of environmental protection that starts with the individual, on the job, at home, or in the community, is the basis from which all environmental work is carried. Pat Moody, secretary to the Great Lakes Basin Coordinator, wanted to work at EPA since its inception in 1970. As a mother with a grown family, Pat wanted to return to the work force, but not just to work: "I always felt responsible and dedicated to cleaning up," she says, "and when I started working here a few years ago I really saw it as an opportunity. Working at EPA can be like working any place else, if you let it. You have to get involved and do something to make it meaningful to you."

Pat does just that, she speaks at schools about EPA and the job it's doing. After work hours she reaches out to make that extra effort. Pat realizes that working for EPA can put you at the cutting edge in working toward a higher quality of life for us all.

It's sometimes a job getting to work here, and it's definitely a job once you arrive. But for those who care, the special opportunities that come with the special responsibilities make it all worthwhile.

Summary

Government hires largest number of pollution fighters

Almost 700,000 workers are directly involved in the pollution control business in the United States, according to a study recently completed for the Environmental Protection Agency by the National Academy of Sciences.

Summary data for 1974 which were used in the study show that government is the biggest employer of pollution control workers with a total of 372,000 employed at the federal, state and local levels.

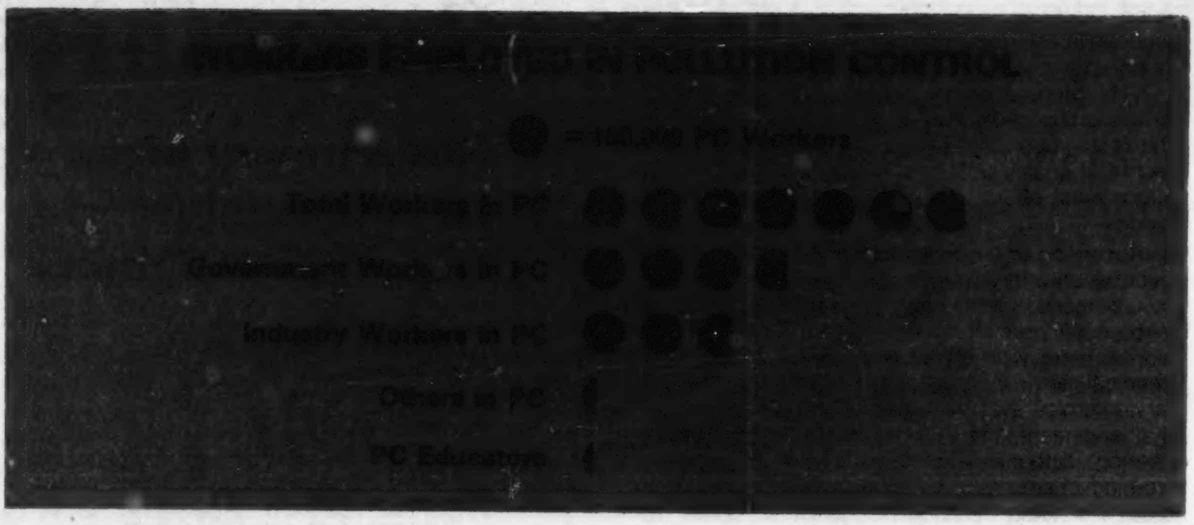
Next comes industry with 283,600 workers. Educational institutions employ 6,800 people, and 14,900 persons are employed by others engaged in pollution control.

A breakdown by occupation shows that skilled operators of pollution control equipment lead with 271,000 workers. Unskilled, clerical, and "others" are second with 224,000. Engineers are third with 94,000, technicians are fourth with 8,000, and scientists are fifth with 40,900.

A closer look at government employment shows that local government is by far the biggest employer of pollution control workers with a total of over 327,000. The federal government was next with some 29,000, and state government followed with around 14,000 employees.

A breakdown for the private sector shows 150,000 in solid waste management services, 34,000 in operation and maintenance of industrial equipment, 27,000 in consulting, and 24,000 in equipment manufacture.

The committee which developed the NAS report for EPA found it difficult to estimate how the employment of environmental manpower is likely to change during the coming decade.



"The committee was handicapped by absence of a reliable economic or programmatic scenario for pollution control activities through 1985," the report said.

It said the difficulty of estimating future levels of economic activity is compounded by the heavy regulatory and financial support roles played by the federal government.

"With its ability to cause massive shifts in resources from one purpose to another in a short time," it said, "the federal government has a unique capability to accomplish goals of enhanced environmental quality.

"At the same time," the report continued, "this ability to quickly alter priorities and resource allocations for a wide variety of discretionary programs makes any long-range projection, no matter how sophisticated in design, purely speculative when much federal participation is involved."

The committee said this was one reason why it decided not to present a unified set of projection results based on manpower modeling techniques.

It decided that it would be more useful and enlightening to approach the separate sectors of environmental activity individually and to discuss the factors most likely to change manpower demand and how great those changes are likely to be.

"For example," the report observed, "demand for environmental manpower within the federal government may decline slightly during the decade if, as expected, the EPA operating budget remains essentially constant through 1985."

It said state and local governments will assume a growing responsibility for monitoring the enforcing environmental regulations. State regulatory agencies are expected to grow by as much as half their 1974 size as they assume new responsibilities, although their overall size will remain small.

"The largest increase in demand for manpower will be by local governments as they staff up to operate the new system of wastewater treatment plants that is supposed to be in operation by 1983. These plants will require mostly skilled experienced operators and blue-collar workers, plus some people with entry-level skills."

" . . . maintaining a large work force at static levels requires the continual infusion of new entrants to replace losses due to attrition . . . "

Despite this surge in demand for skilled operators, the study went on, the number of new positions open each year is unlikely to go beyond the capacities of local training institutions to meet if they have suitable planning and programs.

"Industry and educational institutions are unlikely to have an increased overall demand for environmental manpower, although there undoubtedly will be considerable shifting of specific activities among their existing personnel," the report concluded.

However, even maintaining a large work force at static levels requires the continual infusion of new entrants to replace losses due to attrition.

"Maintaining the 1974 total direct pollution control work force, estimated at about 700,000, would require 14,000 new entrants annually to repalce a 2 percent annual loss from deaths and retirements," the report said. "Losses due to people switching occupations are impossible to estimate, but they could be greater than losses from normal attrition."

Turning to the supply-demand picture for pollution control manpower the report said that, in the long run, the national pollution control program will have full access to a high quality labor force only if wages for environmental activities are maintained at a level equal to or exceeding those for general manufacturing, service activities, or other national programs.

It quotes a 1974 National Science Foundation (NSF) Survey of Scientists and Engineers as saying that some 135,000 persons from various academic disciplines in science and engineering reported working in environmental protection or pollution control.

"The preparation and orientation of this group of workers is perhaps the most important in terms of the technical quality of the national environmental effort," the study concludes.

According to the NSF study, the occupation with the largest number of persons was engineering. "About 60 percent of the professionals were working as civil, mechanical, environmental, and sanitary, chemical electrical, and industrial engineers and in other engineering categories. Others were working chemists, agricultural and biological scientists, earth and other physical scientists, and social scientists. Also, a large number of scientists and engineers were employed as managers and administrators."

The NSF 1974 survey found that, of the nearly 1.75 million persons now employed as scientists and engineers, about 12 percent are working in pollution control; of those with doctorates, the proportion is about 6 percent.

Of the 12 percent working in environmental control, the proportion of civil engineers in this field is 24 percent; chemical engineers, 28 percent; chemists, 19 percent; biological scientists, 22 percent; and environmental or sanitary engineers, 88 percent.

According to the study, the primary manpower problems facing pollution control planners are: how to plan and provide for the unique requirements for selected pollution control jobs; how to upgrade the quality of training for those who require it; and how to provide training to upgrade or reorient skills of people who are already at work in pollution control.

Examining the quality of manpower question, the committee used as an example operators of wastewater treatment plants. "Both great responsibilities and great demands are made upon their ability to perform necessary duties with versatility and competence. There are times when they face the problems of the chemist, mechanic, biologist, and electrician.

"They must be able to apply principles of physics, mathematics, bookkeeping, bacteriology, and hydraulics in their daily routines. At the same time, they need to work effectively with municipal officials and the public."

The report said skill development must apply horizontally, vertically, and diagonally through the entire personnel structure. The key operating staff of a large plant needs to develop competency in more than one skill area in order to move upward in the personnel structure to supervisory positions of increasing responsibility. On the other hand, it continued, the individual operator of a one-person plant must successfully meet the challenge of that job.

The report cites as evidence of poor plant performance the annual reports of EPA to Congress over the past five years which indicate that operator training plays an important part in adequate plant management. The EPA reports developed from periodic operation and maintenance inspections and evaluations of existing wastewater treatment facilities across the nation.

The . . . staff of a large plant needs to develop competency in more than one skill area in order to move up.

"It would be erroneous to place the blame for poor treatment plant performance entirely upon manpower," the NAS report said. "The reasons for such performance include inadequate laboratory facilities, lack of operation and maintenance manuals, lack of spare parts, poor records, and overloading of the system," it continued.

But, it said, each of these problems relates at least in part to manpower and to poor management practices. "Significant savings and improvement in efficiency could be realized if operators and managers were better trained," the study added. "In fact, data show that while labor accounts for the largest proportion of municipal plant operating costs, only a low percentage of operating funds is spent to maintain or upgrade the quality of personnel through training. Even among the better-run treatment plants, it frequently is the smaller plants that spend the largest proportion of funds for training as compared to wages, although the larger plants may spend a greater total amount for training."

It has been observed, the study continued, that in treatment plants that are of good design and have adequate operating equipment, operating efficiency primarily will be determined by the ability of the operating personnel to handle the plant in accordance with design specifications.

The report concludes that manpower aspects of pollution control are a key factor in carrying out the nation's goals for improving environmental conditions. "Shortages of well-trained and experienced manpower can slow the development of control technologies, affect program administration, cause inefficient control plant operation and process failures, and boost the costs of achieving environmental controls."

In addition, the committee concluded that although a large-scale or general shortage of pollution control manpower is not now apparent or likely to develop in the near future it is possible that shortages will occur in selected, specialized occupations.

It said that leadership for planning and developing a national manpower program for environmental pollution control logically rests with EPA and that Congress and the Executive Branch should support this effort.

Occupations:

Environmental jobs can be found in one of four management areas

Occupations concerned with environmental protection can be broken down into four categories. Within each of these broad classifications there is a countless variety of specific activities that might appeal to you. Here are some brief descriptions of a few jobs related to environmental management:

Environmental Equipment Operation

Attendants and Support Personnel Operators

This division provides the muscle behind environmental programs. Within it are the blue collar "doers" who operate, maintain, and sometimes assemble machinery and equipment. As with all other employment, differences in salary and training requirements are based on job responsibilities. This vital occupational category provides many jobs. New programs resulting from recent legislation will increase opportunities to work at such jobs and chances for advancement will become greater for those with relevant experience. Some examples of positions in this category are:

Incinerator Plant Attendant — Responsible for waste disposal in such a way as to minimize air pollution dangers. Operates the incinerator under the supervision of a foreman. Provides direction and assistance for unloading solid-waste trucks. Fixes and maintains machinery. Collects fees for incinerator services. Requirements: Some high-school education and one-the-job training.
Contact:
1. Director, Department of Public Works (or)
2. Personnel Office, Your City Government (or)
3. Local Sanitary District

Wildlife Attendant — Under supervision, works in the operation of fish hatcheries, refuge parks, and animal conservation areas. Cares for breeding wildlife, keeps records on animal development, and counts and inspects fish, birds, or animals in their natural habitats. Requirements: Some high-school education and on-the-job training.
Contact:
1. Local U.S. Forest Service Office
2. Bureau of Sports Fisheries and Wildlife

Wastewater Treatment Plant Operator — Performs functions that concern the effective recycling of water and the removal and disposition of solid-wastes. Operates specialized water pollution control equipment and takes readings, recordings, and samplings of waste water. Requirements: Some high-school education and on-the-job training.
Contact:
1. Director, Department of Public Works (or)
2. Personnel Office, Your City Government
3. Local Sanitary District

Sanitary Landfill Equipment Operator — Operates a gasoline or diesel-powered tractor, power shovel, or other heavy equipment for the construction and maintenance of a sanitary landfill. Services motorized equipment. Requirements: Some high-school education and on-the-job training.
Contact:
1. Director, Department of Public Works (or)
2. Personnel Office, Your City Government

Solid-Waste Systems Manager — supervises solid-waste collection, processing, and disposal systems. Positions are available with local government and private operations. Requirements: One or two years of technical or vocational school training.
Contact:
1. Director, Department of Public Works (or)
2. Personnel Office, Your City Government

The Use Of Environmental Technology

Men and women in this area test theories and turn environmental ideas into actual programs and projects. They monitor, inspect, and analyze the work of the planners and researchers. Some career opportunities are:

Environmental Inspector — Determine the environmechanical and chemical tests. Analyzes data and reports to an appropriate monitoring agency, which is responsible for seeing to it that environmental standards are met. May gather evidence against establishments accused of violating environmental standards. Requirements: Two or three years of technical school or college.
Contact:
1. State Air Pollution Control Agency
2. City or County Air Pollution Control Agency
3. City or County Health Department

Nuclear Technician — Tests nuclear-waste disposal methods. Writes reports and assists in the development of machines and equipment. Monitors nuclear power plant facilities and work areas to detect radiation contamination. Frequently uses complex laboratory equipment. Requirements: At least two or three years of technical school or college.
Contact:
1. Nuclear Power Plants
2. State Environmental Agency, Departments of Health
3. Local Power Authority

Mechanical Tester — Is concerned with air and noise pollution cause dyb engines.Tests fuels and lubricants in engines and analyzes engine exhausts and any resulting air pollution. Often uses microscopes and precision weighing and measuring instruments. Requirements: Two or three years of technical school or college.

Environmental Technology and Education

This group is concerned with transmitting and applying knowledge, techniques, and findings developed by scientists and researchers. The majority of workers in this group have college education or advanced technical training. Fields in this classification include:

Teacher — Depending on professional preparation, instructs citizens of all ages in environmental problems and the role of citizenship in applying possible solutions. Fills the essential role of creating environmental awareness and providing the inspiration and insights necessary to clean up our world. Can teach on the junior and senior high-school or college level in the physical sciences or the humanities. Requirements: Four or five years of college for secondary-school teacher; five to seven years for college instructor.

Environmental Engineer — Specializes in applying engineering principles, methods, and practices to environmental problems, with the object of improving and protecting living conditions. Seeks to limit the degradation of natural resources, such as air and water, and to manipulate man's environment in order to improve health, social and economic conditions. Some environmental engineers apply engineering principles to the maintenance of systems that support life in alien environments in space or in the subterranean seas. Requirements: Four or more years of college.

Noise Control Specialist — Makes assessments of noise sources and researches effects of noise on the environment and on human health. Develops standards for allowable noise levels. Carries out enforcement activities. Works in planning, design, construction, and installation of products and facilities in order to achieve required noise levels. Requirements: Two to seven years of study. Study in fields related to engineering, architecture, health, urban planning, law, etc.

Physician — Diagnoses and treats individuals who are ill or injured. Since all aspects of the ecosystem ultimately affect health and safety, the medical doctor has a large role to play in environmental management. The physician is not only concerned with communicable diseases and injuries, but also safety and the effects on health of environmental pollutants. This work may involve the management of pollutants as well as critical research. Requirements: Eight years of study including college, medical school, and an internship.

Psychologist — Studies effects of environment on human and animal behavior. There are many subspecializations of psychologists, but some of the problems they study include physiological and psychological effects of crowding; natural behaviors of animals; attitudes related to resource consumption and overpopulation; effects of architectural/environmental design on human interaction, and the design and evaluation of environmental programs dealing with human behavior. Requirements: Five to seven years of study including college and graduate school.

Sanitarian/Environmentalist — Plans, develops, and executes environmental health programs: Organizes and conducts training program in environmental health practices for schools and other groups. Determines and sets health and sanitation standards and enforces regulations concerned with food processing and serving, collection and disposal, plumbing, vector control, recreational areas, hospitals and other institutions, noise, ventilation, air pollution, radiation, and other areas. Confers with government, community, industrial, civil defense, and private organizations to interpret and promote environmental health programs. Collaborates with other health personnel in epidemiological investigations and control. Advises civic and other officials in the development of environmental health laws and regulations. Requirements: Four years of college.

Toxicologist — Detects and analyzes poisonous substances in environmental areas. Requirements: Five to seven years of college and graduate school.

Urban Planner — Attempts to relieve and prevent urban problems through the effective use of land and the promotion of a more functional and appealing appearance. Estimates a city's long-range needs bearing on a wide variety of problems and services. Requirements: Six years of study including college and graduate school.

Soil Conservationist — Deals with the productivity and general management of soil use and conservation. Determines the capabilities of particular soils for growing different crops, studies land drainage, inspects watershed land, prevents soil deterioration. Requirements: Four years of college.

Other occupations in the area of technology and education include: aeronautical engineer, agricultural engineer, chemical engineer, combustion engineer, electrical engineer, civil engineer, geological engineer, hydraulic engineer, industrial engineer, nuclear engineer, field health officer, park ranger, architect, landscape architect, fish and game warden, forester, range manager, watershed manager, wildlife manager.

Environmental Science and Research

These careers require a great deal of education and training. Most are in a particular field of science. Life scientists (biologists, botanists, agronomists, etc.) generally do basic research into the components, structure and processes of our environment. Social and behavioral scientists (economists, sociologists, etc.) are concerned with all facets of human society and its institutions. Members of this division are:

Aquatic Biologist — Studies the interaction of plants and animals living in water. Seeks methods to achieve or maintain the balance of aquatic environment. Requirements: Five to seven years of study including college and graduate school.

Entomologist — Investigates the relationship between insects and other forms of life. Often specializes in research involving insects that carry disease or spoil food products. Requirements: Five to seven years of college including graduate school.

Physiologist — Probes into the structure and function of animal organs, tissues, and cells. Studies the effects of life processes as they relate to environmental problems. Requirements: Five to seven years of college including graduate school.

Agronomist — (Crop Scientist, Soil Scientist) — Studies the broad area of applied science of field crops and soils, especially the interrelationships of crop production and soil management, including environmental implications. Crop scientists are concerned with genetics, breeding, and physiology. Soil scientists study chemistry, fertility, microbiology, classificaiton, mineralogy, and management. Requirements: Five to eight years of college including graduate school.

Epidemiologist — Seeks to control diseases within human populations. Studies the delicate environmental balance between disease carriers and their natural predators. Requirements: Ten years of study including college and medical school.

Geologist — Studies the structure, composition, and history of the earth's crust. The work of the geologist has a direct impact on the understanding and utilization of many aspects of the environment. Often explores for vital energy sources such as oil and natural gas. Requirements: Four to seven years of college and graduate school.

Meteorologist — Investigates changes in the earth's atmosphere. There are several subspecializations within this profession, one of which is weather forecasting. Requirements: Four years of college and at least one year of graduate school.

Oceanographer — Examines the ocean, its contents and movements, and pursues ways to better utilize and preserve it. Requirements: Five to seven years of college including graduate school.

Sociologist — Investigates human interactions and the many groups that people form. Studies the ways in which individuals are affected by the organizations to which they belong and the environment in which they live. Requirements: Five to seven years of college including graduate school.

Writer — Informs citizens about environmental problems and their possible solutions. Requirements: Four to five years of college.

Lawyer — Specializes in interpretation of environmental protection laws that have been adopted in the last few years. Requirements: Seven years of college including law school.

Other occupations in the area of science and research include: biochemist, biophysicist, biostatistician, cytologist (study of cells), geneticist (study of heredity), microbiologist, bacteriologist, pathologist, animal ecologist, animal husbandry, pharmacologist, zoologist, agriculturalist, botanist, forest ecologist, horticulturalist, astronomer, chemist, assayer, geophysicist, hydrographer, metallurgist, mineralogist, physicist, seismologist, soil scientist, anthropologist, economist, geographer, mathematician, statistician.

College and Universities in Region V Offering Environmental Programs

This is a compilation of post-high schools and colleges offering environmental science programs. The information is from a variety of sources and is incomplete in significant detail for some schools.

The listing is alphabetical according to state, then by school. The line under each school shows (1) the type of degree(s) offered in the environmental program, (2) the department(s) in which courses are available, (3) in parenthesis the type of environmental program, and (4) the number of courses offered. A dash (—) indicates the data were unavailable.

The codes used are:

Degree Awarded
A — Associate Degree
B — Bachelor Degree
M — Masters Degree
D — Doctorate Degree

Environmental Program
A — Air Quality
W — Water Quality
E — Environmental General Science
H — Health
S — Sanitation

Department
CE — Civil Engineering
ChE — Chemical
H — Public Health
EnvEng — Environmental Engineer
AplSci — Applied Science

Using these codes, the training offered at California Polytechnic State University, San Luis Obispo, California (M; EnvEng; (A, W) 13) reads as follows: "Master of Science degree from the Department of Environmental Engineering, specializing in either air or water pollution control, with 13 courses available on air quality."

ILLINOIS

Bradley University
Peoria 61606
CE; (E) 1

De Paul University
Chicago 60604
B; Ch; (E) 5

Governors State University
Park Forest
B M; EnvSci; (H, E)

Illinois Institute of Technology
Chicago 60616
B M D; EnvEng; (W, E) 9

Northwestern University
Evanston 60201
B M D; EnvEng; (H, W, E) 6

Southern Illinois University at
Carbondale
Carbondale 62901
B M; EnvEng; (E) 6

University of Illinois
Urbana 61801
B M D; CE; (E) 5

Chicago Circle Campus
B M D; EnvSci; (E) 7

Urbana-Champaign Campus
M D; CE; (E) 10

INDIANA

Ball State University
Muncie 47306
B M; (W, E) 5

Butler University
Indianapolis 46208
B; AplSci; (E)

Indiana State University
Terre Haute 47809
B; H; (H)

Indiana University
Bloomington 47401
(E)

Indiana Vocational Technical
College
Gary 46409
A; AplSci; (A, W, E) 10

Purdue University
West Lafayette 47907
M D; CE, Env; (A, H, W, E) 13

Rose-Hulman Institute of
Terre Haute 47803
B; CE, ChE, ME; (H, A) 1

University of Notre Dame
Notre Dame 46556
B M D; CE; (W) 5

MICHIGAN

Ferris State College
Big Rapids 49307
A B; H; (S, H) 3

Genesee Community College
Flint 48503
A; Sci; (A, E) 4

Grand Valley State College
Allendale 49401
B; ChH AplSci; (A, W, E, H)

Michigan Technological University
Houghton 49931
BM; CE AplSci; (A, W, E) 20

University of Detroit
Detroit 48221
B; ChE; (E) 2

University of Michigan
Ann Arbor 48104
M D; EnvH; (A, H, W, S, E) 13

University of Michigan-Dearborn
Dearborn 48128
B; AplSci; (A, W, E, H, S)

Wayne State University
Detroit 48201
BMD; ChE, H; (A, W, E, H) —

Wayne State University
School of Medicine
Detroit 48226
M; Occupational & Env. H.

MINNESOTA

Bemidji State College
Bemidji 56601
A B M; ChBio; (H, E) 1

Mankato State College
Mankato 56001
A B M; ChEnvSci; (W, E)

University of Minnesota
Minneapolis 55455
B M D; EnvEng H ME;
(A, W, E, H, S)

OHIO

Bowling Green State University
Bowling Green 43403
EnvSci; (E)

Cleveland State University
Cleveland 44115
EnvSci; (E) 6

Miami University — Institute of
Environmental Studies
Oxford 45056
M; AplSci; (A, W, E, H, S) —

The Ohio State University
Columbus 43210
A B M D; CE ChE H
EnvEng AplSci;
(A, W, E, H, S) —

University of Cincinnati
Cincinnati 45221
B M D; CE, Env; (A, H, W, E) 21

The University of Dayton
Dayton 45469
B M; CE EnvEng; (W, S) 20

University of Toledo
Toledo 43606
D; ChE; (E, W) 1

WISCONSIN

Marquette University
Milwaukee 53233
B M D; ME, ChE, CE; (W, E) 1

Milwaukee Area Technical College
Milwaukee 53202
EnvH; (H)

Northland College
Ashland 54806
B; AplSci; (E)

University of Wisconsin
Green Bay Campus
Green Bay 54302
B M; (A, W, E, H, S) 248

Madison Campus
Madison 53706
(A, W)

Milwaukee Campus
Milwaukee 53201
B M D; Eng; (E) 20

University of Wisconsin
Stevens Point Campus
Stevens Point 54481
B M; AplSci; (W, E)

High School and Community Colleges in Region V Offering Environmental Training

All six states in EPA Region V provide some type of academic training in environmental protection at either the high school or community college level. The following information was provided to us by the states.

Illinois

In Illinois, the following community colleges either offer or plan to offer a course called "Environmental Control": Kaskaskia, Du Page, Truman-Chicago City, Olive-Harvey, Thornton, Prairie State, Waubonsee, Lake Land, Carl Sandburg, Moraine Valley, Joliet, Lincoln Trail-Illinois Eastern, Olney Central-Illinois Eastern, Lake County, Oakton, Lewis and Clark.

The following community colleges offer or plan to offer a course called "Water Control": Rock Valley, Illinois Central, Lake Land, Lincoln Trail, Shawnee, Lake County, Southeastern, Spoon River, Lewis and Clark.

These comunity colleges offer or plan to offer a course called "Wastewater Control": Danville, Look-Chicago City, Illinois Central, Lake Land, Carl Sandburg, Kiswaukee, Lincoln Trail-Illinois Eastern, Shawnee, Lake County, Southeastern, Spoon River, Lewis and Clark.

For further information on locations of these schools, contact Illinois Community College Board, 518 Iles Park Place, South Sixth Street at Ash Street, Springfield, Illinois 62718.

Indiana

The Indiana Vocational Technical College offers a program entitled "Pollution Treatment Technology." For further information, contact:

Dr. Glenn W. Sample, President
Indiana Vocational Technical College
5221 Ivy Tech Drive, P.O. Box 1763
Indianapolis, Indiana 46206
(317) 297-3210

Ohio

Ohio has an Agricultural Environmental Management Program for 11th and 12th grade students. The following 1977-78 secondary programs are being offered in Ohio:

Montgomery County Joint Vocational School
6800 Hoke Road
Clayton, Ohio 45315
Agriculture Supervisor: William C. Watt (513-837-7781)
Instructors of Environmental Science: *Gary Bambauer (513-837-7781)

Medina County Joint Vocational School
Medina, Ohio 44256
Agriculture Supervisor: Alan Penn (216-725-8461)
Instructors of Environmental Management: *Tony Casalinouvo (216-725-8461)

Washington Park Horticulture Center
3875 Washington Park Blvd.
Cleveland, Ohio 44105
Agriculture Supervisor: Peter Wotoweic (216-696-2929)
Instructors of Environmental Management: *Jack Newmarch (216-883-2102)

Michigan

The following environmental programs are offered by Michigan community colleges:

Bay De Noc Community College
Danford Road
Escanaba, Michigan 49829
(906) 786-5802
Course: Water and Wastewater Treatment

Kalamazoo Valley Community College
6767 West "0" Avenue
Kalamazoo, Michigan 49009
(616) 375-5000
Course: Environmental Control Technology

Kirtland Community College
Route #4, Box 59A
Roscommon, Michigan 48653
(517) 275-5121
Course: Natural Resources Technology

Monroe County Community College
1555 South Raisinville Road
Monroe, Michigan 48161
(313) 242-7300
Course: Environmental Control Technology

Minnesota

The Brainerd Area Vocational Technical Institute offers a Natural Resource Technology Program. For further information, contact:

Natural Resource Technology Program
Brainerd Area Vocational Technical School
300 Quince Street
Brainerd, Minnesota 56401
(218) 829-4653

Wisconsin

The following full-time environmental programs are offered by the Wisconsin Vocational, Technical and Adult Education System:

PROGRAM	TYPE	LENGTH	DISTRICT	CITY
Conservation	Associate Degree	2 year	Fox Valley	Appleton
Horticulture	Associate Degree	2 year	Gateway	Kenosha
Municipal Eng.	Associate Degree	2 year	Southwest	Finnimore
Paper & Pulp Tech.	Associate Degree	2 year	Fox Valley	Appleton
Industrial Safety Tech.	Associate Degree	2 year	Waukesha Co.	Pewaukee
Industrial Hygiene Tech.	Associate Degree	2 year	Western Wis.	La Crosse
Water & Waste Water Treatment Tech.	Associate Degree	2 year	Moraine Park and MATC	Fond du Lac and Milwuakee
Environmental Health	Associate Degree	2 year	Milwaukee Area Tech. College	Milwaukee
Ornamental Horticulture	Vocational Diploma	2 year	MATC	Milwuakee
Horticulture Aid	Vocational Diploma	1 year	MATC	Milwaukee
Aboriculture Aid	Vocational Diploma	1 year	MATC	Milwaukee
Structure Pest Control	Vocational Diploma	Less than 1 year	MATC	Milwaukee
Timber Producer	Vocational Diploma	1 year	Nicolet	Rhinelander
Municipal Services Aide	Vocational Diploma	1 year	Southwest	Fennimore

Intern programs aid career planning

A significant number of the authorities interviewed for this "careers" edition of *Environment Midwest* recommended intern programs for persons planning careers in the field of environmental protection. In general, they said, it gives a potential employer an opportunity to see what the intern can do and it gives the intern an opportunity to get a look at the field from the vantage point of an employee.

Some educational institutions in EPA Region V have cooperative programs Six years ago in Massachusetts, John R. Cook, Jr., with the financial backing of the Massachusetts Audubon Society, began a program called the Environmental Intern Program.

"In the first summer," Cook said, "we had eleven interns." In the summer of 1977, the program had 125 interns, for a total of 800 interns since the program has been in operation.

Cook said the program began as a "kernel of an idea" in 1971 when his sister was in graduate school in Boston. "She really wanted to have a place where she could go and say, 'Here's my resume. I'd like to work for an organization or a non-profit agency, on a part-time or full-time basis.'"

Cook said there was no school sponsored office nor independent agency in the general area to help. At the time he was working as a process server in New York City. "It was interesting, but I wasn't looking forward to making a career out of it," he said.

"So I came to Boston and talked to three or four different agencies." As it turned out, the Massachusetts Audubon Society had a member who liked to give some money to the society every year to start projects of certain interst. "So I was the crazy project for 1972," said Cook.

Today 70 different colleges and universities from all over the country are represented in the program. It has 71 different sponsors. Thirty-seven have been with the program at least one year or more, and there are 34 new sponsors. "One particular indication of success to me is the fact that we are now placing interns with sponsors who are past interns," noted Cook.

Two years ago a survey was made of past interns. Of the 200 interns who had completed their academic training, 73 percent were in research and decision-making jobs within the environmental field.

"Allowing for the fact that we deal generally with motivated people who have already identified a career interest," said Cook, "we feel this figure indicates that we have both reinforced their interest and helped them to be more effective in the job market today."

He said the remaining respondents, 27 percent or so, were in what could be called more traditional, non-environmental jobs, and still felt that the intern experience had really been significant, and had altered their way of thinking. "It can be argued that this is an even more important task to undertake," Cook added.

The program has raised about $1.3-1.4 millions since its inception. Of this, 26 percent has come from foundations and 74 percent has come from sponsors, according to Cook.

In 1974, encouraged by EPA's Regional Office in Boston, the Rockefeller Brothers Fund, and the Mellon Foundation, consideration was given to the idea of developing the programs in other parts of the country. An administrative and financial unit was established to promote the development of new regional programs in other areas of the country based upon this particular program.

"We succeeded to the degree that we now have a program operating in California, with California Tomorrow, where we will place approximately 50 interns this coming year," Cook continued.

Cook said he is presently working with Joe Chadbourne from the Institute for Environmental Education in Cleveland to develop a program for the Lower Great Lakes region, encompassing, Ohio, Michigan, Indiana, and western Pennsylvania.

He said the purpose of the programs is basically threefold: (1) to provide the high quality/low cost technical assistance programs that aid professionals in the public and private sectors working on environmental and energy problems; (2) simultaneously, while this is going on, to offer students needed and valuable experience in the environmental management field; and (3) over the long run, to act as a regional center for co-operation, interaction, and communication among all members of the community to work constructively toward balanced solutions to some of the problems confronting us today.

For further inforamtion about the program, contact John R. Cook, Jr., Director, Center for Environmental Intern Programs, Massachusetts Audubon Society, Lincoln, Massachusetts 01773, (617) 259-9500.

People

Jim Lake, former Director of the Black Creek Project, a soil conservation study in Ft. Wayne, Ind., has been named 208 Implementation Project Specialist for the National Association of Soil Conservation Districts (NACD) in Washington, D.C. As a troubleshooter, Lake's primary responsibilities will be to develop and encourage NACD district involvement throughout the nation in the agriculture and nonpoint source implementation plans. He will also work with the 404 program, legislation effecting the various NACD districts and the Association newsletter. Lake had been with the Allen County Soil and Water Conservation District for the past six years, and the Black Creek Project Director since its inception in 1972.

Barbara Blum, Deputy Administrator of the U.S. EPA has been selected from nearly 100 applicants as one of the nation's "five most outstanding environmentalists." For that she has received the Feinstone Environmental Award paying tribute to her vigorous effort to protect and preserve the Chattahoochee River in Georgia, an educational effort which led to the passage of the Metropolitan River Protection Act, Georgia's first land use legislation.

A recent White House appointment is that of **Lee Botts** as chairman of the Great Lakes Basin Commission in Ann Arbor, Mich. Botts, who has served for the past two years as Director of the Office of Congressional Affairs and Deputy Director of the Office of Public and Intergovernmental Affairs for EPA's Region V, was, prior to that, Director of the Lake Michigan Federation. She is a long-standing environmentalist, has served on numerous environmental committees, and has been instrumental in developing EPA's position paper which advocates a phosphate ban for the Great Lakes Basin.

Wisconsin **Congressman Henry Reuss** discussed "The State of the Lake" at the Audubon Society's Lake Michigan Seminar in Milwaukee on October 1 and 2. The seminar was organized by the North and Central Midwest regional offices of Audubon. Other participants included **Dick Robbins** from the Lake Michigan Federation, **Mimi Becker** and **Walt Pomeroy** from Great Lakes Tomorrow and **Leonard Crook** from the Great Lakes Basin Commission.

Dr. Virginia Prentice has gone from Ann Arbor, Mich. to Ashland, Wis., to become director of the Sigurd Olson Institute for Environmental Studies at Northland College. A long-time leader in the Sierra Club, Dr. Prentice worked in NASA's remote sensing program in Ann Arbor to monitor environmental changes.

Jack Wunderle, 54, retired October 28 as chief of the Ohio EPA's Office of Air Pollution Control after 34 years in the Ohio government. Wunderle began his career in industrial hygiene with the Ohio Department of Health and then moved into the DOH's air pollution control programs. In 1971, as head of the DOH Air Pollution Unit, he was chiefly responsible for writing the Ohio State Implementation Plan for control of air pollution. In 1972, his unit became part of the Ohio EPA. Since then, Wunderle has played a leading role in the development and implementation of Ohio's air pollution control programs.

Another Ohio notable, **Ned Williams,** Director of the State EPA, has been named a fellow of the Institute of Environmental Sciences at Miami University, Oxford, Ohio, for his support of the Institute and service as a lecturer in academic courses.

Federal Register

July 27, 1977 — Notices: Pesticide applicator certification and interim certification; State Plans: New Jersey and Kentucky. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Agriculture Department. Pesticide registration: Kepone; cancelled. **Rules:** Air pollution; standards of performance for new stationary sources: Petroleum refinery fluid catalytic cracking unit catalyst regenerator; correction. United and abbeviations, International system; correction. **July 28, 1977 — Rules:** Air quality implementation plans; various States, etc.: Washington. **August 1, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: Tennessee, Virginia. **Notices:** Air pollution; ambient air monitoring reference and equivalent methods. Air quality standards; photochemical oxidants; volatile organix compounds, control policy; correction. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Agricultural Research Center, Washington State University, et al. **August 2, 1977 — Proposed Rules:** Toxic substances: Inventory reporting and general provisions; reproposal. **Notices:** Pesticides chemicals; tolerances, exemptions, etc; petitions: DuPont De Nemours, E.I., & Co. Pesticide registration: Application data consideration. **August 3, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: District of Columbia, Massachusetts. **August 4, 1977 — Rules:** Air pollution; standards of performance for new stationary sources: Petroleum refinery fluid catalytic cracking until catalyst regenerator; correction. Air quality implementation plans; various States, etc.: Oklahoma. **Proposed Rules:** Air quality implementation plans; various States, etc.: Oklahoma.

Briefs

EPA unveils scrubber technology break-through Nov. 3

U.S. EPA is unveiling an advanced coal burning technology that will enable midwestern and eastern utilities to burn high-sulfur coal as cheaply as imported western low-sulfur coal while keeping the airways clear and clean, Nov. 3, 2 p.m. in Gary, Ind.

To accomplish the Presidential mandate to burn in an environmentaly healthy manner as much coal in production of energy by 1985, EPA has funded a one-year demonstration project that will reduce sulfur dioxide emissions from coal fired electric power plants by at least 90 percent.

Sulfur dioxide is a hazardous and destructive pollutant, more than half of which is produced when coal or oil is burned to generate electricity. The system, being demonstrated at Northern Indiana Public Service Company's Dean H. Mitchell Station in Hammond, Ind., will clean 12,000 tons of air every day.

Although other sulfur dioxide control systems have been demonstrated, operation of this system marks a number of milestones in the development of sulfur dioxide control technology — it is of utmost significance in confirming the availability of a regenerable flue gas desulfurization process for application at a coal-fired utility.

Republic coke ovens given EPA approval

Proving economic progress and protection of the environment are not incompatible objectives, U.S. EPA has given final approval for construction of Republic Steel Corporation's new coke oven battery in Warren, Ohio, the first approved by EPA's Midwest Regional Office under the significant deterioration regulations.

The new battery, scheduled for start-up in 1980, has capabilities of producing 1,500 tons of coke per day and will replace two existing coke batteries at Republic's Warren Steel Mill.

The Agency's authority to regulate coke oven batteries comes from the Clean Air Act of 1970 and the amendments of 1977 which gives the Agency the power to prevent "significant deterioration" of air quality from new air pollution sources. Under these regulations, new sources of pollution are prohibited in an established area without an equal reduction from other existing sources.

EPA has previously approved six new power plants and one sulfur recovery facility in the Region under the significant deterioration regulations.

America's steel makers are discovering that only through the application of modern productive methods can they remain competitive and that these new highly productive processes such as Republic's are invariably less polluting than the less productive highly polluting facilities they replace.

Midwestern states receive $1 billion in treatment grants

Region V officials estimate approximately one and a half billion dollars has been allocated in the last 12 months for sewage treatment plant construction in the six states which make up EPA's Region V.

Todd Cayer, Construction Grants Chief for the Region said EPA paid out $1,492,955,821 to midwestern cities and towns compared to $1 billion in fiscal year 1976.

Where to Inquire in Region V

For a State Job

Illinois

John Henkhaus, Personnel Officer
Department of Personnel
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706
Tel. No. (217) 782-9895

Indiana

Charles R. Powers, Personnel Director
Indiana State Board of Health
1330 W. Michigan St.
Indianapolis, Indiana 46206
Tel. No. (317) 633-0391

Michigan

M. E. Southworth, Chief
Personnel Division
Michigan Department of Natural Resources
Stevens T. Mason Building
P. O. Box 30028
Lansing, Michigan 48909
Tel. No. (517) 373-1207

Minnesota

Elaine Johnson, Personnel Director
Minnesota Pollution Control Agency
1935 West County Road 32
Roseville, Minnesota 55113
Tel. No. (612) 296-7308

Ohio

Tom Olander, Personnel Director
Ohio Environmental Protection Agency
361 E. Broad Street
Columbus, Ohio 43216
Tel. No. (614) 466-8649

Wisconsin

Paul S. Willihnganz, Assistant Director
Personnel Office
Wisconsin Department of Natural Resources
P. O. Box 7921
Madison, Wisconsin 53707
Tel. No. (608) 266-7318

For a Federal Job

EPA Region V
Personnel Office
230 S. Dearborn St.
Chicago, Illinois 60604
Tel. No. (312) 353-2026

Off the press

Publications on Environmental Careers

The following is a list of publications compiled by EPA Region V Librarian Lou Tilley. The list is not meant to be comprehensive, but it includes many of the more prominent works on the subject.

Environmental Careers, by James Hahn & L. Hahn (Franklin Watts, 1976).

Career Opportunities; Ecology, Conservation and Environmental Control, by J.G. Ferguson Editorial Staff (Ferguson, 1971).

Career Choices; Working Toward A Better Environment, (U.S. EPA, Office of Public Affairs, January, 1977) revised.

Do Universities Really Know the Needs of the Environmental Employment Market?, by John Baum (Indiana University, School of Public & Environmental Affairs, June, 1976). Occasional Papers No. 6.

Choosing Your Career; Environmental Control, by David Mercer (United Feature Syndicate, Inc., 1975).

Career Development Planning Grid for Use in Guiding the Career Development & Training of Wastewater Treatment Plant Personnel, (U.S. EPA, Manpower and Training Division).

Choose a Career Which Allows a Future (EPA, 1974).

Guidelines to Career Development for Wastewater Treatment Plant Personnel (U.S. EPA, Office of Education & Manpower Planning, Public Service Careers Section, September, 1973) PB-253337.

Careers in Environmental Protection, by Reed Millard. (Julian Messner, 1974).

Career Opportunities in the Environmental Protection Agency (U.S. EPA, 1977).

Environment for Women Working on Environmental Problems, by J.C. Ridley et al (Yale University School of Forestry and Environmental Studies, 1974).

Popeye and Environmental Careers, by Joe Gill (King Features, 1973).

Publications on Environment

Region V's environmental impact statement (EIS) staff, which reviews all EIS's prepared for projects in the six-state region, reports that it often has extra copies of these documents after they are reviewed and would like to recycle to schools or other educational institutions for use in environmental courses. The projects involve such matters as transportation, water resouces and energy development. Instructors or others interested in obtaining these EIS's can call 312/353-2307 or write EIS Staff, U.S. Environmental Protection Agency, 230 S. Dearborn St., Chicago, Illinois 60604.

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George Alexander, Jr. — regional administrator
Frank Corrado — public affairs director
Bill Omohundro — editor
Kathy Brown — briefs and people editor
Phyllis Kierig — production editor

Calendar — Days to remember

Oct. 1-Jan. 1 Eight hour classes conducted by the Solid Waste Management Office of the Indiana State Board of Health on first aid and personnel safety for landfill operators. For more information call Dan Magoun at 317 633-0199.

Nov. 2 Meetings at various location for Michigan commercial and industrial water pollution control plant operators. Contact Michigan Department of Natural Resources in the Steven T. Mason Building in Lansing.

Nov. 3 Scrubber demonstration of Wellman-Lord System — Gary, Ind. Contact Public Affairs, U.S. EPA, 230 S. Dearborn, Chicago, Ill. for more information.

Nov. 4 Public hearing on pesticide-toxicology data auditing program — Midland Hotel, Chicago, Ill.

Nov. 10 Toledo, Oh. — Ohio coal and its effects on air quality seminar. Meeting scheduled for the Crosby Gardens' Conference Center. Contact Ohio League of Women Voters.

Nov. 12 Calumet, Ind. — An Environmental History Fair will be held at Purdue University. The theme of the fair will be the interchange between humans, natural resources, and technology.

Nov. 14 Cincinnati, Oh. — Mt. Auburn Presbyterian Church — Ohio coal and its effects on air quality seminar sponsored by Ohio League of Women Voters.

Nov. 15-16 Great Lakes Basin Commission Conference in Ann Arbor, Mi. on water conservation in the Great Lakes Region.

Nov. 17 St. Louis, Missouri. "The Energy Problem: A challenge to local government" conference so-sponsored by the Center for Urban and Environmental Research and Services at Southern Illinois University at Edwardsville and the East-West Gateway Coordinating Council. For further information contact Alfred Kahn, SIU, CUERS, F Box 32 Edwardsville, Illinois 62062 618 392-3032.

Nov. 18 Akron, Oh. Ohio coal and clean air seminar at the Akron Jewish Center. Contact Ohio League of Women Voters.

Nov. 28 Newark, Oh. Ohio coal and clean air seminar at the Ohio State University Newark Campus. Contact Ohio League of Women Voters.

Dec. 1-9 9a.m. to 4 p.m. Olds Plaza Hotel, Lansing, Mi.; Public Meeting on EPA Notice to Regulate PBBS under Toxic Substances Act.

Dec. 1 Abstract of 150 words due from government, education and industrial leaders who expect to attend Purdue University's Industrial Conference May 9-11, 1978. Contact Dr. James Etzel Purdue Industrial Conference, Civil Engineering Building, Purdue University, West Lafayette, Ind. 47907.

Dec. 8-9 A toxicology workshop, entitled "Clinical and Forensic Toxicology Pharmacometric" at the Univ. of Ill. Medical Center. Contact JoAnn Cohn, Univ. of Ill. Medical Center, 1853 West Polk Street, Room 144, Champaign, Ill.

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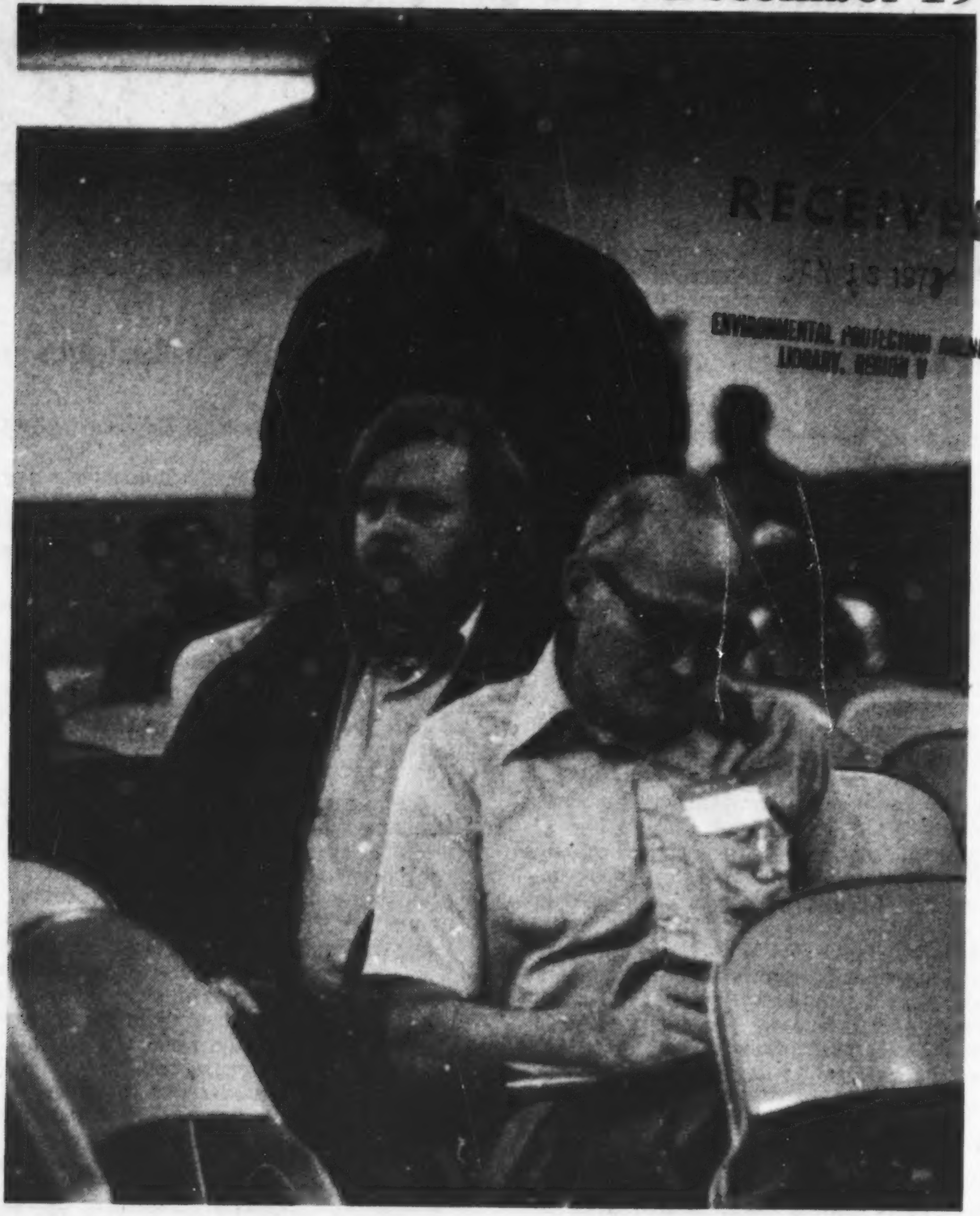
December 1977



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4-1

Jim McDonald, Bob DuPrey, and David Kee of Region V, U.S. EPA, met with steelworkers in the union halls last month.

Summits: Steelworkers want healthy workplaces now

In the late months of 1977, a federal environmental bureaucrat doesn't walk into a steelworkers union meeting with a completely settled stomach.

It's in that kind of meeting that Congressional intent, Washington policy and *Federal Register* definitions have to meet flannel shirts, job concerns and plain talk head on.

It's like mixing oil and water, but just such meetings took place in Region V three times in November and December. Judging by the first two meetings in South Chicago and East Chicago, Indiana, there's common ground to be found.

In the face of popular beliefs that unions don't support environmental issues, Illinois and Indiana steelworkers' local representatives, on their own turf, came down four square in support of a healthy workplace.

"No worker should ever have to chose between a job and a healthy work place," said one federal official and that appeared to be a given for the steelworkers present.

Region V of EPA, working with District 31 of the United Steelworkers organized the meetings, which will continue through the early months of 1978. With the blessing of Steelworkers International Administrative Director Joseph Odocich, the District 31 Director Jim Balanoff and the Local 1010 environmental committee have given full support to the EPA program.

A new generation of steelworkers is . . . health and environmentally oriented and not afraid to get involved . . .

What seems to be emerging from these meetings is the fact that there is a new generation of steelworkers coming up the ranks that is health and environment oriented, smart and not afraid to get involved.

". . . One hundred thousand workers a year are dying from the results of toxic poisons . . ."

Dan Hannon, representing the Health and Safety Department of the Steelworkers International, said the union had invested to date over $1 million in fighting for better health protection for coke oven workers (see separate story). Hannon, former president of the U.S. Steel Clairton Works local, charged that environmental blackmail of workers has significantly increased. "I've never seen a situation so bad with our own workers as in the past year," he told the East Chicago meeting. "And yet," he went on, "one hundred thousand workers a year are dying from the results of toxic poisons."

Hannon said, however, that "progress has been made in the last five years" and recommended closer communications between EPA and the USW, a new environmental committee on pollution and toxics.

District 31 President Jim Balanoff told the East Chicago meeting that "clean air and clean water are part of our standard of living."

Steelworker president of District 31 Jim Balanoff and Michael Olszanski, the head of local 1010's environmental committee, gave full support to EPA goals for a clean and healthy workplace.

Said Region V Enforcement Director Jim McDonald: "You guys are the first line of exposure to these toxicants. And there's not one steel area in the U.S. that is not above acceptable levels. While there has been 90 per cent compliance by industry generally, there has been less than 50 per cent in steel. It's the hardest and toughest industry to regulate," he went on, "but if you're going to protect health, it's a cost of doing business."

EPA Air Programs Director Bob Duprey told the group about new provisions in the recently enacted Clean Air Act Amendments that offer workers protection against environmental blackmail (see related story).

"What about charges that the final stages of pollution control are overly strict," asked Dennis Shadduck of Local 1010. "Congress rejected these charges," responded McDonald "with passage of the Clean Air Act Amendments . . . we're not talking about harmless dusts . . . if we haven't learned it by now! . . . these poisons have to be reduced to the bottom limit."

Ms. Janet Coslet of Local 1014 asked, "With so many pollution complaints, how can you handle them all?" "There's a three-prong approach," responded McDonald, "that includes the state, local and federal." He went on to recommend that people who want to complain about air pollution, for example, send in a photo that shows time and date along with their complaint, and that they send it to the closest air pollution agency.

Dennis McGuire, head of the Gary clean air agency, noted that in all of Northwest Indiana there are only three local agencies, including his, and that his agency alone was responsible for 800 permits at U.S. Steel Gary. "We're just too small," he said.

Rudy Nichols, President of Local 6103 asked what kind of help was available from the State of Indiana. He warned that state agencies forewarn industries of supposedly unannounced inspections. Said McDonald, "We want to make these visits unannounced. The law says we don't have to tell the company, but we do have to tell the states."

Many workers raised concerns over occupational safety and health problems bringing up similar complaints about inspection procedures, delays, dealings with state agencies. Other meetings with union officials are scheduled in January in Detroit, Duluth, Milwaukee and Green Bay. A December meeting was to be held in Cleveland.

Dan Hannon, representing the Health and Safety Department of the Steelworkers International, said the union had invested over $1 million in fighting for better health protection.

Jim Ross

A griever's grievance

Jim Ross, who works as a Local 1010 "griever" (union man who handles job complaints) on the Inland Steel coke ovens in East Chicago, had to copy off a bulletin board the readings of worker exposure to coke oven gasses, even though the law says he's supposed to get a copy if he wants one.

That didn't bother him as much as the numbers he copied down. According to the Occupational Safety and Health Act, the maximum dosage workers should be exposed to is 150 micrograms per cubic meter in an 8-hour period. Most workers' readings were far in excess, and one reading 34,500 was 120 times the standard.

Ross, whose own reading was up around 17,500 back in April, says he's been working on the coke batteries for 12 years. "I think I'm dying," he says. "I can't wait to 1980 for no standard." That's when the OSHA's coke oven standards take full effect.

Ross, who's a Larrycar operator, has been working various coke battery jobs for 12 years. "There's more opportunities for overtime and steady work on the ovens," he says. "Most of us got families.

"If we go these high emissions on the ovens, think about what's going into the community. We're getting it at work and at home."

Ross says that starting in January coke oven workers, under OSHA rules, will have to wear respirators full time. But he hopes that something more acceptable to workers can be devised.

Ross says he's one of the busiest grievers at Inland. Like most coke oven workers he has a "gallows" sense of humor. "There's a saying on the batteries that you got only six months to live after retirement," he observes. "Except, of course, one guy named John, who has hung around an awful long time. We tell him he's just too mean to die."

What Jim Ross copied down at Inland Steel

Coke Oven Emission Exposure Limits 150 MCM (Micrograms/Cubic Meter)

Legal Concentration Micrograms/Cubic Meter 150 M.C.M.

Shift	12-8 shift	8-4 shift	4-12 shift
Battery #8			
Larrycar Operator	1270-8/23/77	630-8/18/77	1850-8/31/77
Lidman	910-8/23/77	1020-8/18/77	1580-8/31/77
Pusher Operator	170-8/23/77	450-8/18/77	40-8/31/77
Pusher Operator Helper	10230-8/23/77	440-8/18/77	170-8/31/77
Door Machine Operator	280-8/23/77	560-8/18/77	450-8/31/77
Door Cleaner	410-8/23/77	570-8/18/77	280-8/31/77
Quench Car Operator	320-8/23/77	270-8/18/77	380-8/31/77
Spellman	440-8/23/77	390-8/18/77	550-8/31/77
Tar Chaser	Not Assigned	1930-8/18/77	Not Assigned
Oven Labor	840-8/23/77	1590-8/18/77	350-8/31/77
Janitor	See #6 Battery		
Battery #9			
Larry Man	2100-8/23/77	2370-8/18/77	1120-8/31/77
Lidman	9730-8/23/77	600-8/18/77 3890-8/18/77	1140-8/31/77
Pusher Operator	360-8/23/77	260-8/18/77	140-8/3/77
Pusher Operator Helper	380-8/23/77	200-8/18/77	120-8/3/77
Door Machine Operator	380-8/23/77	580-8/18/77	110-8/31/77
Door Cleaner	2800-8/23/77	510-8/18/77	600-8/31/77
Quench Car Operator	See #8 Battery		
Spellman	500-8/23/77	850-8/18/77	430-8/31/77
Tar Chaser	Not Assigned	See #8 Battery	Not Assigned
Oven Labor	4220-8/23/77	500-10/25/77	34500*-10/26/77
Janitor	Not Assigned	See #6 Battery	Not Assigned

Enforcement crackdown

"We've got to take away economic advantages they (industry) acquired by failing . . ."
Marvin Durning

Marvin Durning / AA Enforcement / Washington / U.S. EPA
George Alexander, Jr. / RA Region V / U.S. EPA

Marvin Durning's first priority is fairness and equity.

And that means an accelerated schedule of enforcement actions against 338 water and 1200 air pollutors in the U.S. who have failed to meet deadlines set by the Clean Air Act and the Water Pollution Control Act.

The new EPA Assistant Administrator for Enforcement first laid out the agency's updated approach to a packed hall of Attorneys General, pollution control officials, Assistant U.S. Attorneys and EPA staffers from throughout the Midwest in a Chicago meeting a few weeks back.

"Action should begin in the next few months," said Durning, who urged all present to work out which cases will be taken on by the States and which will be left to the EPA for litigation.

"The national compliance record on the whole is very encouraging," Durning went on. "Eighty to ninety percent of industrial firms made the July 1977 first round water cleanup deadline.

"We think it's fair and what every American would want that we see to it that those who invested their own and their shareholders monies to join in the common effort could not suffer economic disadvantage against their competitors who were recalcitrant and refused to comply."

"We've got to take away any economic advantage they acquired by failing to comply," he added.

Durning says he wants to make sure that there's a continued incentive for voluntary compliance in the U.S. "We want to keep faith with all those firms, cities, towns, and federal facilities that did the job and made the progress we've made."

Durning says his policy is not really a "file first, negotiate later" situation. "It's a file now after months and years of negotiation — and we'll negotiate while the clock is ticking and we're approaching the day of trial."

One of the main elements of Durning's program is the "Economic Penalty Policy" which he asked the Region V States to review. The policy is basically a formula that seeks fines from delaying polluters equal to any economic advantage gained by that delay.

Durning told the State agencies that he did not want to preempt them in enforcement areas, unless absolutely necessary. And he told the State's that they have a right to sue Federal facilities if necessary to achieve compliance.

Durning admits that the whole question of penalties for delays is a difficult one. Criteria to be used in determining the amount of money to be sought through a summary judgment proceeding would be based on the size of business involved, economic impact of the assessment and seriousness of the violation.

Ned Williams, Director of the Ohio EPA said that Ohio had had, and still has, some serious pollution problems but "we found out from bitter experience that negotiation takes less time than litigation. We've found out that the State (acting) without EPA doesn't accomplish much and vice-versa. We want an opportunity," he added, "to sit down and go over these cases with you and then decide whether to join with you or go our separate way."

Durning said one of the biggest problems was assessing penalties against municipalities that have fallen behind in cleanup.

"We can hardly get compliance slower than we have from some polluters," concluded the former Seattle environmentalist Durning, "and the end of the line has got to be there sooner or later." Durning said he hoped the State would get back their comments to EPA on the economic penalties policy before Christmas. He said he hoped the whole national effort on the new policy could get underway by February.

One of the key questions raised on the new EPA enforcement policy concerns its impact on the steel industry, "The economic distress of the steel industry at this time is real," Durning told the group, "so is the environmental hazard attached to the steel making process. Every major steel making facility is in an urban area which does not meet health-protecting standards of the Clean Air Act. And the steel making is the reason why," he added.

The Law: Protection against environmental blackmail

Two sections of the recently passed Clean Air Act Amendments — P.L. 95-95 (August 7, 1977) — apply directly to worker protection against environmental blackmail.

Section 311, Title III of the Clean Air Act was amended to allow for investigations of threatened plant closures because of environmental requirements.

The new section reads as follows:

EMPLOYMENT EFFECTS

"Sec. 321. (a) The Administrator shall conduct continuing evaluations of potential loss or shifts of employment which may result from the administration or enforcement of the provision of this Act and applicable implementation plans, including where appropriate, investigating threatened plant closures or reductions in employment allegedly resulting from such administration or enforcement.

"(b) Any employee, or any representative of such employee, who is discharged or laid off, threatened with discharge or layoff, or whose employment is otherwise adversely affected or threatened to be adversely affected because of the alleged results of any requirement imposed or proposed to be imposed under this Act, inculding any requirement applicable to the Federal facilities and any requirement imposed by a State or political subdivision thereof, may request the Administrator to conduct a full investigation of the matter. Any such request shall be reduced to writing, shall set forth with reasonable particularity the grounds for the request, and shall be signed by the employee, or representative of such employee, making the request. The Administrator shall thereupon investigate the matter and, at the request of any party, shall hold public hearings on not less than five days' notice. At such hearings, the Administrator shall require the parties, including the employer involved, to present information relating to the actual or potential effect of such requirements of employment and the detailed reasons or justification therefor. If the Administrator determines that there are no reasonable grounds for conducting a public hearing he shall notify (in writing) the party requesting such hearing of such a determination and the reasons therefor. If the Administrator does convene such a hearing, the hearing shall be on the record. Upon receiving the report of such investigation, the Administrator shall make findings of fact as to the effect of such requirements of employment and on the alleged actual or potential discharge, layoff, or other adverse effect on employment, and shall make such recommendations as he deems appropriate. Such report, findings, and recommendations shall be available to the public.

"(c) In connection with any investigation or public hearing conducted under subsection (b) of this section or as authorized in section 119 (relating to primary nonferrous smelter orders), the Administrator may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books and documents, and he may administer oaths. Except for emission data, upon a showing satisfactory to the Administrator by such owner or operator that such papers, books, documents, or information or particular part thereof, if made public, would divulge trade secrets or secret processes of such owner, or operator, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of title 18 of the United States Code, except that such paper, book, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out is Act, or when relevant in any proceeding under this Act. Witnesses summoned shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In cases of contumacy or refusal to obey a subpoena served upon any person under this subparagraph, the district court of the United States for any district in which such person if found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Administrator, to appear and produce papers, books, and documents before the Administrator, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

"(d) Nothing in this section shall be construed to require or authorize the Administrator, the States, or political subdivisions thereof, to modify or withdraw any requirement imposed or proposed to be imposed under this Act."

The new law also amended Section 312 of Title III of the Clean Air Act on Employee protection for participating in environmental regulatory proceedings.

The new section reads as follows:

"Sec. 322. (a) No employer may discharge any employee or otherwise discriminate against any employee with respect to his compensation, terms, conditions, or privileges of employment because the employee (or any person acting pursuant to a request of the employee) —

> "(1) commenced, caused to be commenced, or is about to commence or cause to be commenced a proceeding under this Act or a proceeding for the administration or enforcement of any requirement imposed under this Act or under any applicable implementation plan,
>
> "(2) testified or is about to testify in any such proceeding, or
>
> "(3) assisted or participated or is about to assist or particiapte in any manner in such a proceeding or in any other action to carry out the purposes of this Act.

"(b) (1) Any employee who believes that he has been discharged or otherwise discriminated against by any person in violation of subsection (a) may, within thirty days after such violation occurs, file (or have any person file on his behalf) a complaint with the Secretary of Labor (hereinafter in this subsection referred to as the 'Secretary') alleging such discharge or discrimination. Upon receipt of such a complaint, the Secretary shall notify the person named in the complaint of the filing of the complaint.

"(2) (A) Upon receipt of a complaint filed under paragraph (1), the Secretary shall conduct an investigation of the violation alleged in the complaint. Within thrity days of the receipt of such complaint, the Secretary shall complete such investigation and shall notify in writing the complaint, the Secretary shall complete such investigation and shall notify in writing the complainant (and any person acting in his behalf) and the person alleged to have committed such violation of the results of the investigation conducted pursuant to this subparagraph. Within ninety days of the receipt of such complaint the Secretary shall, unless the proceeding on the complaint is teminated by the Secretary on the basis of a settlement entered into by the Secretary and the person alleged to have committed such violation, issue an order either providing the relief prescribed by subparagraph (B) or denying the complaint. An order of the Secretary shall be made on the record after notice and opportunity for public hearing. The Secretary may not enter into a settlement terminating a proceeding on a complaint without the participation and consent of the complainant.

"(B) If, in response to a complaint filed under paragraph (1), the Secretary determines that a violation of subsection (a) has occurred, the Secretary shall order the person who committed such violation to (i) take affirmative action to abait the violation, and (ii) reinstate the complainant to his former position together with the compensation (including back pay), terms, conditions, and privileges of his employment, and the Secretary may order such person to provide compensatory damages to the complainant. If an order is issued under this paragraph, the Secretary, at the request of the complainant, shall assess against the person against whom the order is issued a sum equal to the aggregate amount of all costs and expenses (including attorneys' and expert witness fees) reasonably incurred, as determined by the Secretary, by the complaintant for, or in connection with, the bringing of the complaint upon which the order was issued.

"(c) (1) Any person adversely affected or agrieved by an order issued under subsec-

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Amendments . . . from page 6

tion (b) may obtain review of the order in the United States court of appeals for the circuit in which the violation, with respect to which the order was issued, allegedly occurred. The petition for review must be filed within sixty days from the issuance of the Secretary's order. Review shall conform to chapter 7 of title 5 of the United States Code. The commencement of proceedings under this subparagraph shall not, unless ordered by the court, operate as a stay of the Secretary's order.

"(2) An order of the Secretary with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in any criminal or other civil proceeding.

"(d) Whenever a person has failed to comply with an order issued under subsection (b) (2), the Secretary may file a civil action in the United States district court for the district in which the violation was found to occur to enforce such order. In actions brought under this subsection, the district courts shall have jurisdiction to grant all appropriate relief including, but not limited to, injunctive relief, compensatory, and exemplary damages.

"(e) (1) Any person on whose behalf an order was issued under paragraph (2) of subsection (b) may commence a civil action against the person to whom such order was issued to require compliance with such order. The appropriate United States district court shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce such order.

"(2) The court, in issuing any final order under this subsection, may award costs of litigation (including reasonable attorney and expert witness fees) to any party whenever the court determines such award is appropriate.

"(f) Any nondiscretionary duty imposed by this section shall be enforceable in a mandamus proceeding brought under section 1361 of title 28 of the United States Code.

"(g) Subsection (a) shall not apply with respect to any employee who, acting without direction from his employer (or the employer's agent), deliberately causes a violation of any requirement of this Act.".

Enforcement actions reviewed

The following is a list of air and water enforcement actions that were taken by Region V in the two months between September 16 and November 15, 1977. AO stands for Administrative Order and NOV stands for Notice of Violation.

Air Name of Facility	Location	Type of Action*	Date
Duquesne Light Co. W. H. Sammis Station	Stratton, Ohio	NOV	9/22/77
Kelsey Hayes Company Div. of Fremont Foundry	Fremont, Ohio	NOV	9/26/77tr
Reilly Tar & Chemical Company	Cleveland, Ohio	NOV	9/28/77
CertainTeed Corporation	Shelbyville, Indiana	NOV	9/28/77
Toledo Refinery of the Sun Oil Company	Toledo, Ohio	NOV	9/28/77
Shell Oil Company	Wood River, Illinois	NOV	9/30/77
Ashland Petroleum Company	Canton, Ohio	NOV	9/30/77
Tecumseh Corrugated Box Company	Brecksville, Ohio	NOV	9/30/77
U.S. Steel Corporation Gary Works Coke Plant	Gary, Indiana	NOV	10/14/77
Lawrence Refractories Company	Pedro, Ohio	NOV	10/14/77
Dayton Press, Inc.	Dayton, Ohio	NOV	10/14/77
Cleveland Electric Illuminating Company Eastlake Plant	Willoughly, Ohio	NOV	10/19/77
Citizens Gas & Coke Utility	Indianapolis, Indiana	NOV	10/19/77
City of Cleveland Div. Pumping Station	Cleveland Ohio	NOV	10/20/77
B. F. Goodrich Company	Akron, Ohio	NOV	10/19/77
Commercial Transport, Inc.	Indianapolis, Indiana	NOV	10/26/77
General Motors Corp. Assembly Div. Plant	Norwood, Ohio	NOV	11/10/77
Correctional Medical Reception Center	Columbus, Ohio	NOV	11/11/77
Independent Towel Supply Company	Celveland, Ohio	NOV	11/15/77

Water Name of Facility	Location	Type of Action	Date
Illinois Power Company Wood River Station	East Alton, IL	AO	9/16/77
Uniroyal, Inc.	Mishawaka, IN	AO	9/16/77
Energy Cooperative, Inc.	East Chicago, IN	AO	9/16/77
Village of Itasca	Itasca, IL	AO	9/16/77
Amoco Oil Company	Whiting, IN	NOV	9/27/77
Enge Parking, Co., Inc.	Front Branch, IN	AO	9/29/77
Allied Chemical Company	Ironton, OH	NOV	10/04/77
City of Rock Falls	Rock Falls, IL	AO	10/07/77
City of Salem	Salem, IL	AO	10/14/77
Lake County Public Works Dept., Des Plaines River	Lake County, IL	AO	10/14/77
City of Tell City	Tell City, IN	NOV	10/14/77
Gladieux Refinery	Ft. Wayne, IN	NOV	10/14/77
Muncie Saniotary Dist.	Muncie, IN	NOV	10/17/77
Allied Chemical Corp.	South Point, OH	NOV	10/19/77
East Chicago Sanitary District	East Chicago, IN	NOV	10/25/77
Whirlpool Corporation	Clyde, OH	NOV	11/03/77
Owens Illinois Inc.	Columbus, OH	NOV	1/11/77
Village of Bourbonnais	Bourbonnais, IL	AO	10/14/77
Nabisco, Inc.	Marseilles, IL	AO	10/19/77
Texas Eastern Transmission Corp.	Houston, TX	AO	10/19/77
Marathon Pipeline Co.	Findlay, OH	AO	10/19/77
Peoples Gas, Light & Coke	Chicago, IL	AO	10/19/77
Commonwealth Edison, Technical Center	Maywood, IL	AO	10/20/77
Central IL Light	Bartonville, IL	AO	10/20/77
J. H. Routh Packing Co.	Sandusky, OH	AO	10/25/77
City of Ft. Wayne	Ft. Wayne, IN	AO	10/28/77

AO (or NOV)

Streator, Ill.: A town wondering where its water goes

Streator, Ill. is a town that could sink into the sunset.

The town is built over abandoned coal mines that are filled with water polluted by Streator's storm sewers.

The water appears to be seeping into the nearby Vermillion River, but if it is pumped out, parts of Streator might collapse.

In an effort to help state and local officials identify the Vermillion River's pollution sources, EPA Region V is drafting an environmental impact statement (EIS). The EIS will help determine water pollution control solutions that will not create other environmental problems; particularly subsidence of mines beneath Streator.

The EIS will be used to assure that federal, state and local funds are used more effectively to construct water pollution control facilities while preventing damage to the environment.

Suspicion that mine seepage was partially responsible for pollution of the Vermillion River began with preliminary study supplied by Illinois' Environmental Protection Agency. Illinois EPA asked U.S. EPA to prepare an EIS. They wanted an effective water pollution control plan that could prevent mine sinking.

Cemented-over mine shaft entrances line the bank of the Vermillion near Streator and the banks of nearby Prairie Creek which feeds into the Vermillion.

Although the cement plugs keep tons of polluted water from pouring into the river, the plugs apparently leak sufficient quantities to degrade the water quality of the Vermillion.

The worked-out mines were abandoned around the turn of the century and began to fill with storm water and sewage from houses built over the shafts.

The combined sewer system was constructed with drop shafts to the mines. They were apparently meant primarily to allow only wet weather excess flow to discharge to the mines. However, many of the drop shafts and other cracks in the system allow some dry weather sewage flow into the mines. Now, there are an unknown number of individuals who never hooked up to the combined sewer system, but discharge directly to the mines.

At present, said Cindy Wakat, EPA's project officer for the EIS, the extent of leakage can be determined by how well the old treatment plant is functioning.

Wakat explained: "We have strong evidence of how poorly the collection transmission system is functioning by knowing the quality of effluent getting to the treatment plant.

"Streator has approximately 20,000 people," explained Wakat, "But its sewage treatment plant is only treating waste for a population of 7,000."

The plant is not having any problem meeting treatment standards possibly because it handles only a light load and it is maintained.

Streator's officials have been grappling with the mine and treatment plant questions for several years. The town fathers paid for a professional engineering survey and applied for a step one facilities grant from U.S. EPA to finance the study.

The survey was authorized because the city wanted to increase its attractiveness to industry and meet federal pollutant discharge permits.

In order to grow, the town realized it needed to answer industry's questions on the quality and availability of sewage treatment.

Upgrading the existing sewer system became a priority for some of Streator's future industrial growth. Planning for a new system water level maintenance program which U.S. EPA might have to subsidize.

Current theory on Streator's subsidence problem is that the mines are like an inflated water balloon. The mine walls could collapse like a balloon as the water recedes.

Any solution to the mines' seepage problem must incude some provisions for keeping the levels of water in the mines at current levels. Complicating the problem is that not all the ground support in the city has the same degree of weakness. The ground structure resembles a piece of old fashioned Christmas ribbon candy. It's uneven.

To determine current water levels, EPA hired a subconsultant to drill into the shafts and take soil borings in different sites. Also, the consultant's research will help determine what impact the construction of new sewage lines and a treatment plant would have on the town's potential sinking problems.

The EIS consultant is also responsible for determining whether and to what extent the mine seepage is responsible for polluting the Vermillion river.

The city's residents are leery of any more action until EPA proves the Vermillion River is actually being polluted by mine seepage and that any proposed solution will not cause subsidence.

The solution proposed in Streator's draft facilities plan was expansion of the plant and construction of a new sanitary collection line system.

"The solution is not inexpensive," said Wakat. "The plant upgrading and new connecting lines could cost $55 million dollars. The projected costs of other alternatives has not yet been calculated."

(continued on page 10)

What is an EIS?

Environmental Impact Statements (EIS) evaluate and publicize environmental impacts and show how they can be minimized.

An EIS is the heart of a federal administrative process designed to ensure achievement of national environmental goals. Each statement must assess in detail the potential environmental impact of a proposed action, and all federal agencies are required to prepare statements for matters under their jurisdiction. EIS' are considered for projects which can cause significant potential environmental impact.

The National Environmental Policy Act (NEPA) which was signed on Jan. 1, 1970 by the President set up the legal machinery for the EIS program. Each agency has its own regulations implementing NEPA demands.

The statement's primary purpose is to disclose the environmental consequences of a proposed action, thus alerting the agency decision makers, the public and, ultimately, Congress and the President to the environmental risks involved.

An EIS is done in two stages — a draft and a final version. Citizen comment is sought for the draft. The 30 day review required for the final version gives those who commented on the draft EIS a chance to see if their concerns have been properly dealt with in the final EIS.

Each statement must include the following contents:

- An inventory of existing conditions which serves as a baseline for a determining potential environmental impacts.
- A detailed description of the proposed action including information and technical data adequate to permit a careful assessment of environmental impact.
- Discussion of the probable impact on the environment, including any impact on an ecological system and any direct or indirect consequences that may result from the action.
- Any adverse environmental effects that can not be avoided.
- Alternatives to the proposed action that might avoid some or all of the adverse environmental effects, including analysis of costs and environmental impacts of these alternatives.
- An assessment of the cumulative, long-term effects of the proposed action including its relationship to short term use of the environment versus the environment's long term productivity.
- Any irreversible or irretrievable commitment of resources that might result from the action or which would curtail beneficial use of the environment.

Streater ... from page 9

Wakat said the $55 million dollar bill was a hunk of money for the agency and the residents.

"The city's share of $55 million would be no small matter," said Wakat.

The project officer said Streator's EIS will address the following considerations:

- Identification of the pollution problem caused by injection of storm and sanitary waste into the mines;
- Whether overflow into the mines is actually preventing mine subsidence, what effect not pumping wastewater into the mines would have on subsidence, and what effect mine subsidence has had on the life span of the present sewer system;
- What structural/nonstructural alternatives and associated costs could retard mine subsidence other than injection of treated or untreated wastewater into the mines;
- The project's potentials for simulating development over mined areas and thereby increasing the potential for subsidence problems.
- The cost effectiveness of increasing the service areas to include the neighboring village of Kangley.

Four possible solutions to water pollution clean up and the subsidence problem are:

- Fill in the abandoned mines;
- Maintaining existing mine water levels by plugging mine discharges to the river;
- Maintain water levels by continuing discharge to the mines via river water, plant effluent, storm water;
- Maintain water levels by continuing discharge to the mines, but treat the water prior to mine discharge and sewer separate and direct storm water discharge to the mines.
- Continue untreated combined discharge to mines: collect, transport, and treat mine discharges to the river.

All the alternatives for solving the Streator problems are being presented to Streator's residents in a series of four public meetings. The first meeting was held Oct. 3.

It was at one of the meetings, that Wakat's worries about sinking were confirmed.

One of the older residents told her that during the Depression, he had been giving permission to reenter the mines to dig for coal. Water was pumped out of the mines for the digging and some parts of the town sunk.

The mine shafts were reclosed and Streater did not fade out of the sunset.

Settling, not sinking, causes most subsidence problems

Are sinking coal mines a problem in Illinois?

Yes.

Three months ago, Illinois lost 300 feet of Route 13 in southern Illinois when a mine pothole sank.

Last year, an entire school in the southern part of the state sank into the sunset. Fortunately, it sank slowly and the kids had plenty of time to leave the building.

In actuality, though, more people blame settling and sinking problems on abandoned mines than they deserve, said Robert Robeson of Illinois' Bureau of Mines which opened for business in 1872.

Most settling problems in Illinois are caused by the faulty grading of home sites by contractors. Houses can sink a little if a contractor did not adequately grade a home site.

Less than one percent of the state's land is undermined by coal shafts, explained Robeson. Yet, Illinoisans do have some potentially serious sinking or subsidence problems.

The Bureau of Mines has listed more than 1700 abandoned mines in Illinois. Many of the abandoned mines are in older metropolitan areas. Coal was the leading fuel until about 40 years ago for both railroads and homes.

In addition, mines do not have to be filled in upon abandonment. Companies often retain the rights to re-enter a formerly closed mine and dig anew for coal.

As a consequence, some of the larger abandoned mines are near metropolitan centers and rail terminals.

Mining companies lease a land's coal rights, but not necessarily the surface ground. Mining companies are not required to fill in abandoned mines or tell area homeowners that an abandoned mine is below their house.

However, Robeson said his office works closely with FHA inspectors when a subdivision is being financed with federal monies. If no federal funds are being used, it's the buyer's responsibility to find out if he's sitting on a coal mine.

The extent of pollution caused by flooded and abondoned coal mines is another unknown problem, said Robeson.

Until the Bureau of Mines drills into an abandoned mine, there is no way to accurately determine if it has been flooded.

Robeson said water has a tabling effect on abandoned mines. The tabling effect helps keep abandoned mines from collapsing, the engineer said.

"I've had a lot of arguments over whether abandoned mines will fall if the water plug is pulled," said Robeson. "I've seen a bulldozer fall into an abandoned mine that it accidently de-flooded. So, you can't tell me that what I've seen with my own eyes is not true."

The solution to the sinking mine problem in the future, said Robeson, is probably a change in mining techniques. The Bureau of Mines is working with the coal industry on the problem.

Briefs

Federal facilities receive enforcement orders for clean-up

Seventeen Federal facilities were issued Notices of Violation and Orders for Compliance for water and air pollution violations by the Region V office of the U.S. EPA.

Referencing a policy announced October 20, 1977, by Barbara Blum, U.S. EPA Deputy Administrator, George Alexander, Jr., Regional Administrator explained. "These enforcement actions are evidence of Region V's all-out effort to facilitate the EPA's program of even-handed and swift enforcement against violating Federal facilities."

Ten installations were cited for violations of the Federal Water Pollution Control Act and five for violations of the Clean Air Act. Two facilities were cited for violations of both air and water.

The facilities cited for violating the Federal Water Pollution Control Act were cited for: non-compliance with statutory deadlines, violations of the effluent limits, failure to achieve construction deadlines, and violations of reporting requirements mandated by each facility's discharge permit.

Installations violating the Clean Air Act were cited for: non-compliance with State emission standards for particulate matter and/or sulfur dioxide and the fact that acceptable compliance programs had not been developed.

"This Agency is maintaining a strict enforcement posture toward Federal facilities. The Federal government has to be held to the same high standard of accountability as others," stated James O. McDonald, Director of the Enforcement Division, for U.S. EPA, Region V.

The facilities were given up to twenty days to respond to the Orders and Notices of Violation.

MAJOR FEDERAL AIR AND WATER VIOLATORS

SOURCE	POLLUTION PROBLEM
Ohio	
Department of Defense Defense Supply Agency Defense Construction Supply Center Columbus	Air
Department of Defense Defense Logistics Agency Defense Electronics Supply Agency Dayton	Air
Department of Energy Portsmouth Area Gaseous Diffusion Plant Piketon	Air
Department of Energy Feed Material Production Center Fernald	Air & Water
National Aeronautics Space Administration Lewis Center Cleveland	Air
U.S. Air Force Wright-Patterson Air Force Base Dayton	Air
U.S. Air Force Rickenbacker Air Force Base Columbus	Water
Illinois	
U.S. Air Force Chanute Air Force Base Rantoul	Air & Water
U.S. Air Force Reserve 928th Tactical Airlift Group O'Hare International Airport Chicago	Air
U.S. Army Joliet Army Ammunition Plant Joliet	Air
U.S. Army Savanna Army Depot Activity Savanna	Air
Indiana	
U.S. Air Force Grissom Air Force Base Peru	Air
U.S. Army Fort Benjamin Harrison Indianapolis	Water
U.S. Navy Naval Ammunition Depot Crane	Water
Michigan	
U.S. Army Missile Material Readiness Command Michigan Army Missile Plant Sterling Heights	Air
U.S. Air Force Selfridge Air Force Base Mt. Clemens	Water
U.S. Air Force Sawyer Air Force Base Sawyer	Water

Briefs

Grand jury returns 11 indictments against Velsicol

The United States Attorney's Office for the Northern District of Illinois announced December 12 that a special grand jury in Chicago had returned an 11-count indictment against the Velsicol Chemical Corporation and six of its present and former officers, employees and attorneys. Velsicol is the major manufacturer and distributor of the pesticides heptachlor and chlordane. Its headquarters is located at 341 East Ohio Street, Chicago, Illinois.

The indictment charges that from August 1972 to July 1975, the defendants used the mails and conspired to defraud the United States Environmental Protection Agency, by failing to submit data which had come into their possession which tended to show that heptochlor and chlordane induced tumors in laboratory animals and thus might pose a risk of cancer to human beings.

In addition to the corporation, six individuals were charged in some or all counts of the indictment.

The case was referred to the Department of Justice by the United States Environmental Protection Agency and was presented to the grand jury by Assistant United States Attorney Robert L. Herbst and Special Department of Justice Attorneys Bingham Kennedy and Lee Tyner.

U.S. Justice Department officials said that members of the public are reminded that the indictment is only a charge and is not evidence of guilt. They said the defendants are entitled to a fair trial in which it will be the government's burden to prove guilt beyond a reasonable doubt.

Toxic compound control rules expected soon

A series of rules to control toxic compounds, such as PCBs and fluorocarbon aerosols, should be issued by the Environmental Protection Agency at the end of this year and beginning of next year, according to EPA Assistant Administrator for Toxic Substances Steven D. Jellinek.

Speaking to the Manufacturing Chemists Association in New York, Jellinek said that during late 1977 and early 1978 EPA would:

— establish regulations to control the labeling and disposal of toxic PCBs, now used mainly as an electrical insulating fluid but suspected as a cancer agent and as a source of damage to people's immunological systems and reproductive capability.

— issue final rules for phasing out non-essential uses of fluorocarbon aerosols believed responsible for eating away part of the earth's protective ozone shield.

— set requirements for the chemical industry to report to EPA which substances they produce, how much of each and where.

— guide the chemical industry on immediately informing EPA of substantial health risks associated with certain compounds.

— seek public comment on an overall strategy for making the 1976 Toxic Substances Control Act work.

The toxics law is intended to prevent inadequately tested chemicals from reaching the marketplace and to allow for additional safeguards or restrictions on compounds already in use.

Greenway development and protection publications ready

The risks and benefits of three pesticides — one used on home lawns, the other two in agriculture — are being reviewed by the Environmental Protection Agency as part of a broader program to determine the safety of existing pesticides.

The three most recent entries in this pesticide review are:

— cadmium, a naturally occurring metal, used to control molds and "spot" diseases in home lawns, golf course turf and other grasses.

— maleic hydrazide, a compound that regulates the growth of unwanted "suckers" on about 90 percent of the U.S. tobacco crop and is also applied to 10 or 15 percent of domestic potatoes and onions to prevent them from sprouting after harvest.

— PCNB (pentachloronitrobenzene) used on about 12 percent of U.S. cotton acreage and on 2 to 3 percent of peanut acreage to protect these crops from plant rot diseases.

The pesticide review program is known as "rebuttable presumption against registration." It's not a ban, but rather a chance for pesticide makers, users, health and environmental groups to comment on the risks versus benefits of possibly dangerous pesticides before EPA decides whether to leave them on the market or restrict or remove them. This evaluation may last one year or more, and in the meantime the affected pesticides may continue to be sold and used.

Since March 1976, rebuttable presumption notices have been issued by EPA on 24 pesticide ingredients including kepone, toxapliene, endrin, lindane and the widely used EBDC fungicides. EPA's intent is to decide the fate of these compounds in less time and at less expense than were involved in stopping most uses of the pesticides DDT, aldrin, dieldrin, chlordane and heptachlor. These ingredients have been "cancelled" or "suspended" over the last several years through lengthy courtroom type hearings before administrative law judges.

Cadmium, maleic hydrazide and PCNB have been shown to cause a variety of ill effects among people or experimental organisms.

Briefs

Wastewater treatment manuals now available

Two new technical manuals designed to help improve operation and maintenance of municipal wastewater treatment facilities are now available from the U.S. Government Printing Office in Washington, D.C.

"The Process Control Manual for Aerobic Biological Wastewater Treatment Facilities," an on-the-job reference for operators of activated sludge and trickling filter treatment plants, can help establish process control techniques to obtain optimum performance of these two systems and aid operators in developing new ideas for process control.

"Operations Manual for Package Treatment Plants" is designed to help operators in establishing effective operation of a package treatment plant. It is directed to the plant owner and design engineer for use in conjunction with data in O&M manuals written for specific plants. Consulting engineers also may find information dealing with design problems in some package plants useful in selecting a plant.

Both publications are available from the U.S. Government Printing Office, Washington, D.C. 20402. The order number for the aerobic manual ($4.75) is 055-001-01071-1, the package plant manual ($2.50) order number is 055-001-01072-9. Checks should be made payable to the Superintendent of Documents.

Michigan DNR expands hazardous waste data base

The Michigan Department of Natural Resources reports Director Howard A. Tanner has approved substantial revisions on a program that state officials believe will lead to increased protection against hazardous materials in Michigan.

The Michigan Critical Materials Register (CMR), a list of chemicals high environmental concern, has been expanded to nearly three times its original size in an attempt to obtain information on toxic chemicals which pose a potential threat to man and his environment.

For each chemical appearing on the list, Michigan industries must file an annual report stating the amount of each material used as well as the amount discharged. Information obtained by this program will help DNR officials identify dangerous trends in the use and discharge of toxic substances. Michigan officials believe analysis of these trends will enable the state to initiate action to prevent toxic emergencies before they occur.

The CMR has not been substantially revised since the early 70's to include the thousands of new chemicals manufactured with potential for environmental contamination and negative health effects — not included on the original CMR list are PBB's, C-56 and dioxins.

Air pollution costs

According to a report prepared at the request of EPA, air pollution is costing metropolitan area residents in the U.S. as much as $6 billion a year in property and health damage — a number to be considered when weighing the costs of environmental cleanup against the benefits.

The Midwest Research Institute study estimates the three worst hit cities in the country — New York City, Chicago and Los Angeles — at what it considers a conservative $1 billion, $981 million and $611 million respectively.

Testing ordered for suspected chemicals

An eight-member Federal Committee has recommended that EPA require testing of four individual chemicals and six groups of chemicals to determine their potential for human or environmental damage.

The individual chemicals are: Chloromethane, Hexachloro-1,3-butadiene, Nitrobenzene, and Toluene. The groups of chemicals are: Aklyl Epoxides, Alkyl Phtalates, Chlorinated Benzenes, Chlorinated Paraffins, Cresols and Exlenes.

These were selected as a result of a multi-step screening process which included a detailed review of a number of chemical substances and groups expected to have a high priority for testing. Special attention was given the chemicals known or suspected of causing or contributing to cancer, gene mutations or birth defects. In making their selections, the Committee considered:

- the quantities produced and released into the environment,
- the number of persons exposed in the workplace and in the general environment.
- their similarities to chemicals known to be hazardous,
- lack of existing data on their effects on health and the environment and,
- the extent to which additional testing could provide a better understanding of their effects on human health and the environment.

EPA now has one year to propose regulations for the testing of these chemicals under the Toxic Substances Control Act or to state publicly its reasons for not doing so.

Federal Register

October 14, 1977 — Proposed Rules: Pesticide programs: Packaging special; requirements and testing protocols. **October 17, 1977 — Rules**: Air quality implementation plans; various States, etc.: North Dakota, Oklahoma. **Proposed Rules**: Air quality implementation plans; various States, etc.: Arizona. Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Aluminuum phosphide. **Notices:** Air pollution; standards of performance for new stationary sources: Washington; authority delegation. Meetings: FIFRA Scientific Advisory Panel. State-Federal FIFRA Implementation Advisory Committee (2 documents) — 55491, Pesticide applicator certification and interim certification; State plans: Massachusetts. Pesticide programs: Ethylenebisdithiocarbamates; extension of time. Pesticides; specific exemptions and experimental use permits: Interior Department. **October 18, 1977 — Rules:** Air pollution; standards of performance for new stationary sources: Sulfuric acid mist emission guideline. **October 19, 1977 — Rules:** Air quality implementation plans; various States, etc.: Alabama. **Proposed Rules:** Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Terbacil. **Notices:** Pesticide chemicals; tolerances, exemptions, etc.: petitions: BASF Wyandotte Corp. Du Pont de Nemours, E. L., & Co. Fisons Corp. Pesticide registration Applications. **October 20, 1977 — Rules:** Implementation of Resource Conservation and Recovery Act, interim regulations. **Notices:** Pesticide applicator certification and interim certification; State plans: Alabama. Pesticide programs: Pentachloronitrobenzene (PCNB). Pesticides; specific exemptions ad experimental use permits: Interior Department. **October 21, 1977 — Rules:** Air quality implementation plans; various States, etc: California. Pesticide chemicals in or on raw agricultural commodities; tolerances and exemptions, etc.: Aluminum phosphide. Chlorothalonil. Inert ingredients in pesticide formulations; correction. Waste management, solid: Suits, citizen; prior notice. **Proposed Rules:** Air pollution control, new motor vehicles and engines: Light duty vehicles; emission testing procedures. **October 25, 1977 — Notices:** Pesticide applicator certification and interim certification; State plans: Missouri. Wisconsin. **October 26, 1977 — Notices:** Meetings: State-Federal Water Programs Advisory Committee, Integrated Pest Management Working Group; cancellation. Pesticide programs: Cadmium. Pesticides; specific exemptions and experimental use permits: Oregon State Department of Agriculture. **October 27, 1977 — Rules:** Air programs; energy-related authority: Georgia. Air quality implementation plans; various States, etc.: California. New York. **Notices:** Meetings: Science Advisory Board, Environmental Pollutant Movement and Transformation Advisory Committee. Pesticide chemicals; tolerances, exemptions, etc.; petitions: Ciba-Geigy Corp. et al. Pesticide residues in animal feeds, meat and poultry; regulatory programs; memorandum of understanding with Food Safety and Quality Service; cross reference. Pesticides; specific exemptions and experimental use permits: DuPont de Nemours, E. I., & Co., et al. (2 documents). Mauget, J. J., Co., et al. **October 28, 1977 — Rules:** Air pollution control, new motor vehicles and engines: Editorial changes and corrections. Water quality standards; State program regulations removed. **Notices:** Air pollution; health effects and ambient air concentrations; cadmium arsenic, and polycyclic organic matter; inquiry. Pesticide applicator certification and interim certification; State plans: Kansas. Pesticide programs: Maleic hydrazide. Water quality standards, State; adoptions and approvals. **October 31, 1977 — Notices:** Meetings: State-Federal FIFRA Implementation Advisory Committee. **November 2, 1977 — Notices:** Grants, Federal assistance: Treatment works, construction; minority construction contractors utilization. Municipal sludge management; environmental factors; technical bulletin; availability. Pesticide registration: Nitrosamines. Pesticides; specific exemptions and experimental use permits: South Dakota Department of Agriculture. **November 3, 1977 — Rules:** Air quality implementation plans: Prevention of significant deterioration (PSD); areas clearner than minimum national standards. **Proposed Rules:** Air quality implementation plans: Prevention of significant air quality deterioration (PSD). Air quality implementation plans; preparation, adoption, and submittal: Prevention of significant air quality deterioration (PSD). **Notices:** Pesticide registration: Dibromochloropropane (DBCP) containing products; suspension, etc. (3 documents). Pesticides; specific exemptions and experimental use permits: Mobay Chemical Corp. Uniroyal Chemical et al. **November 4, 1977 — Notices:** Toxic substances control: Proposed guidance on notification of substantial risk; supplemental notice. **November 7, 1977 — Notices:** Toxic substances control: Business information, confidential. **November 8, 1977 — Rules:** Air quality implementation plans; various States, etc.: Idaho. **Notices:** Meetings: Resource Conservation Committee. **November 9, 1977 — Rules:** Air quality implementation plans; various states, etc.: Virginia. **Proposed Rules:** Air quality implementation plans; various States, etc.: Indiana. Virgin Islands. **Notices:** Air quality criteria; external review drafts; availability: Benzene, atmospheric. Pesticide applicator certification and interim certification; State plans: Iowa. Pesticide chemicals; tolerances, exemptions, tec.; petitions: Conrel. Sandoz Inc. Pesticide registration: Applications (2 documents). Pesticides; specific exemptions and experimental use permits: ICI Americas Inc. Montana Department of Livestock and Department of Fish and Game. Olin Chemicals et al.

November 10, 1977 — Rules: Air pollution; standards of performance for new stationary sources; Sewage sludge incinerators. Air quality implementation plans; various States, etc.: New York. **Proposed Rules:** Air pollutants, hazardous; National emission standards: Asbestos content of crushed stone. Air quality implementation plans: Gas turbine installations; preconstruction review; withdrawn; prevention of significant air quality deterioration (PSD); conference. **Notices:** Air pollution control, new motor vehicles and engines: California; waivers. Air quality models, guidelines; conference. Meetings: Science Advisory Board; cancellation. Pesticide applicator certification: Defense Department Federal Agency Plan. Pesticide applicator certification and interim certification; State plans: Texas. Water pollution control; discharge of pollutants to navigable waters: Illinois. **November 11, 1977 — Rules:** Water pollution; effluent guidelines for certain point source categories: Inorganic chemicals manufacturing; extension of time. **Proposed Rules:** Air quality implementation plans; various States, etc.: Oklahoma. **Notices:** Meetings: Administrator's Toxic Substances Advisory Committee. Pesticide applicator certificaton and interim certification; State plans: Delaware, District of Columbia. **November 15, 1977 — Notices:** Marine sanitation device standard: California-Nevada. Meetings: Interagency Regulatory Liaison Group; Testing Standards and Guidelines Work Group. **November 16, 1977 — Proposed Rules:** Air quality implementation plans; various States, etc.: California, Massachusetts. **Notices:** Meetings: Science Advisory Board. **November 18, 1977 — Rules:** Air quality implementation plans: Prevention of significant air quality deterioration (PSD); areas cleaner than minimum national standards; correction. **Proposed Rules:** Air quality implementation plans: Prevention of significant air quality deterioration (PSD); correction. Air quality implentation plans; preparation, adoption, and submittal: Prevention of significant air quality deterioration (PSD); correction. Noise abatement programs: Transportation equipment; truck-mounted solid waste compactors; correction. **Notices:** Meetings: Municipal Construction Division Management Advisory Group. Pesticide applicator certification and interim certification; State plans: Wyoming. Pesticide chemicals; tolerances, exemptions, etc; petitions: Mobey Chemical Corp. Pesticide programs: Dimethoate; extension of time. Pesticides; specific exemptions and experimental use permits: Agriculture Department, Chevron Chemical Co. et al. **November 21, 1977 — Notices:** Air quality criteria; external review drafts; availability: Benzene, atmospheric; correction. Food additive petitions: American Cyanamid Agricultural Division; withdrawn. Marine sanitation device standards: Texas. Pesticide chemicals; tolerances, exemptions, etc.; petitions: BASF Wyandotte Corp. Pesticide registration: Phenarsazine chloride-containing products; withdrawn.

Calendar

January 3-5	Facilities Planning for Wastewater Treatment Works Seminar and Workshop sponsored by the Municipal Construction Division, US. EPA will be held in Chicago. For further information, send inquiries to: Registration, FP 201, Department of Engineering, UW-Extension, 432 N. Lake St., Madison, WI 53706.
January 4-5	Illinois Spray School — Pesticides — held at the University of Illinois, Urbana. For further information, contact Dr. Steve Moore, Illinois Natural History Survey, 169 Natural Resources Building, Urbana, IL 61801.
January 9	U.S. EPA Public Hearing on the prevention of Significant Deterioration-Air held at the O'Hare Ramada Inn, Chicago. For further information, contact Miss Ginny Walsh (312) 353-2205.
January 10-11	Technology Transfer Design Seminar on "Small Wastewater Treatment Systems" held in Columbus, Ohio. For information on this contact Marti Velasco at (312) 353-2072 or Mr. Clifford Risley at (312) 353-2200.
January 31- February 1-2	Meeting of the Midwest Chapter of the International Society of Arboriculture, Sheraton O'Hare Motor Inn, Chicago. Further information on this meeting is available from Mr. Blair Caplinger, Nelson Tree Service Inc. 3300 Office Park Dr., Dayton, Ohio 45439.

People

Michael P. Mauzy has been named acting director of the Illinois Environmental Protection Agency. Since joining the Agency in 1972, Mauzy has served as manager of environmental programs, manager of Laboratory Services and manager of the division of water pollution control.

Benn J. Leland retired August 1 after over 40 years in the pollution control field in Illinois. At the time of his retirement, Leland was manager of the Maywood regional office of the Illinois EPA's division of water pollution control.

Environment Midwest

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George Alexander, Jr. — regional director
Val Adamkus — deputy regional administator
Frank Corrado — public affairs director
Bill Omohundro — editor
Kathy Brown — briefs editor
Phyllis Kierig — production editor

Happy Holidays from all of us in the office of Public Affairs

Season's greetings from the staff of the Office of Public and Intergovernmental Affairs of Region V of the U.S. Environmental Protection Agency. From left to right: Geraldine Hayes, Jane Kenneally, Mary Ellen Sabella, Phyllis Kierig, Ann Brash, Kathy Brown, Bill Omohundro, Frank Corrado, and Patty Reape.

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